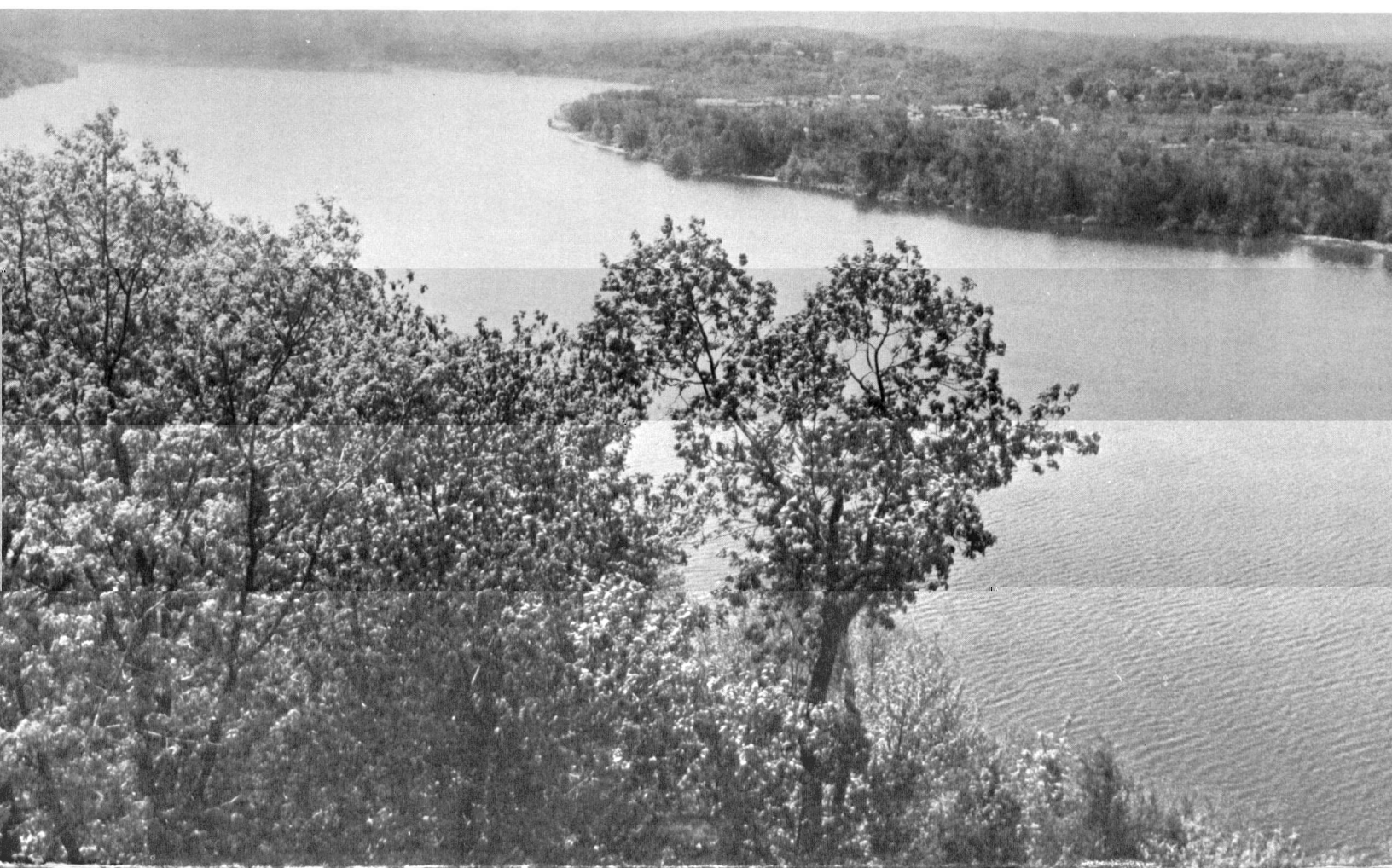


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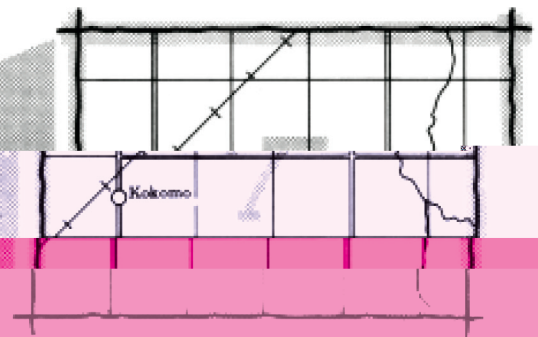
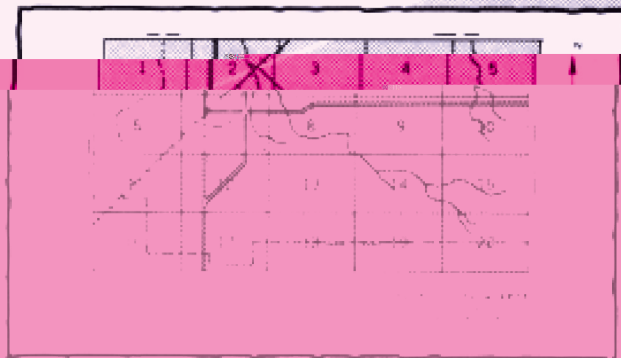
# Middlesex County, Connecticut

United States Department of Agriculture, Soil Conservation Service  
in cooperation with  
Connecticut Agricultural Experiment Station  
Storrs Agricultural Experiment Station



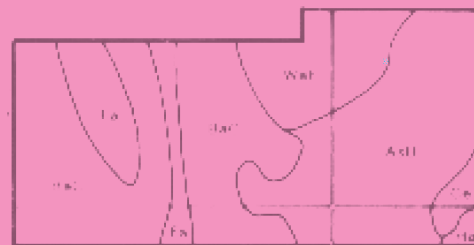
# HOW TO USE

1. Locate your area of interest on the "Index to Map Sheets"

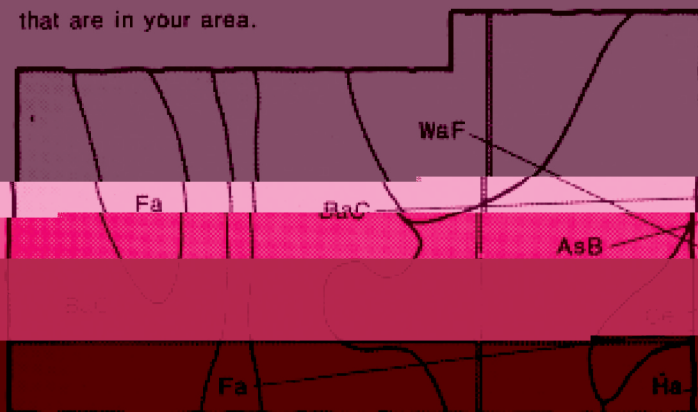


2. Note the number of the map sheet and turn to that sheet.

3. Locate your area of interest on the map sheet.



4. List the map unit symbols that are in your area.



## Symbols

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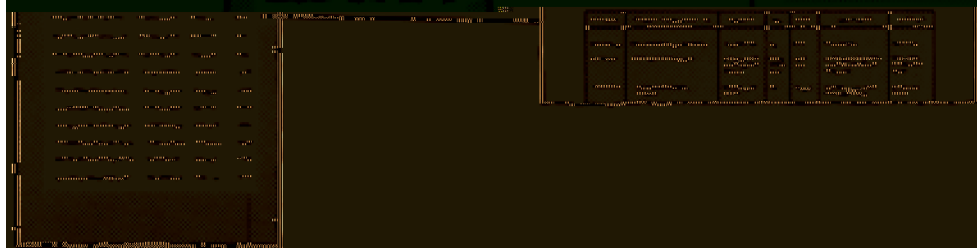
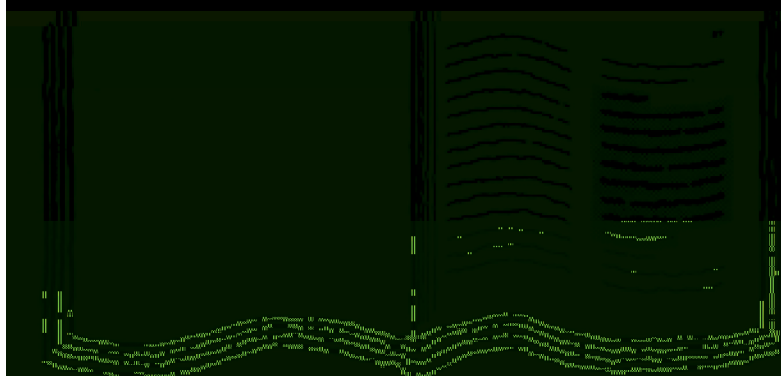
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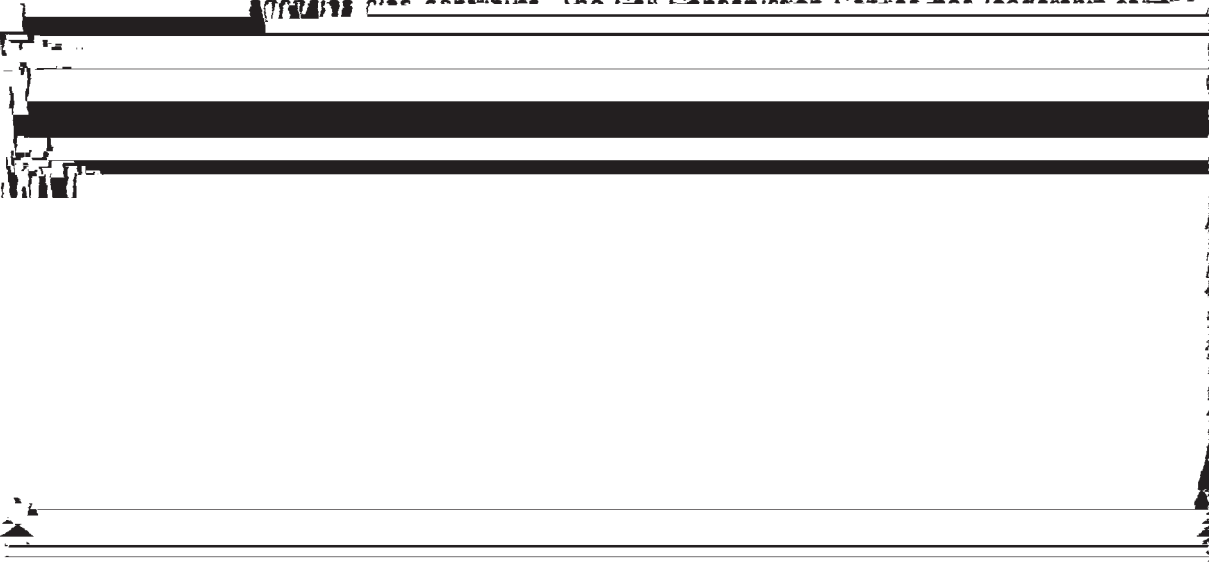
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WaF

# THIS SOIL SURVEY



This is a publication of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and agencies of the States, usually the Agricultural Experiment Stations. In some surveys, other Federal and local agencies also contribute. The Soil Conservation Service has leadership for the



Federal part of the National Cooperative Soil Survey. In line with Department of Agriculture policies, benefits of this program are available to all, regardless of race, color, national origin, sex, religion, marital status, or age.

Major fieldwork for this soil survey was performed in the period 1972-76. Soil names and descriptions were approved in 1976. Unless otherwise indicated, statements in the publication refer to conditions in the survey area in 1976. This survey was made cooperatively by the Soil Conservation Service and the Connecticut Agricultural Experiment Station and the Storrs Agricultural Experiment Station. It is part of the technical assistance furnished to the Middlesex County Soil and Water Conservation District.

Soil maps in this survey may be copied without permission, but any enlargement of these maps could cause misunderstanding of the detail of mapping and result in erroneous interpretations. Enlarged maps do not show small areas of contrasting soils that could have been shown at a larger mapping scale.



# Contents

	Page		Page
<b>Index to map units</b> .....	v	Time .....	53
<b>Summary of tables</b> .....	vii	<b>Soil series and morphology</b> .....	53
<b>Foreword</b> .....	ix	Adrian series .....	53
<b>General nature of the county</b> .....	1	Agawam series .....	53
Settlement and development .....	1	Berlin series .....	54
Farming and woodland .....	1	Branford series .....	54
Industries and transportation .....	2	Canton series .....	55
Climate .....	2	Carlisle series .....	55
<b>How this survey was made</b> .....	2	Charlton series .....	56
<b>General soil map for broad land use planning</b> .....	3	Cheshire series .....	57
Soils of the New England Uplands that formed		Ellington series .....	57
mainly in material that weathered from		Hartford series .....	58
gneiss, schist, and granite .....	3	Hinckley series .....	58
1. Canton-Hollis-Charlton .....	3	Hollis series .....	59
2. Hollis-Charlton .....	3	Holyoke series .....	59
3. Paxton-Woodbridge .....	4	Leicester series .....	59
4. Hinckley-Agawam-Merrimac .....	4	Ludlow series .....	60
Soils of the Connecticut Valley Lowlands that		Manchester series .....	60
formed mainly in material that weathered		Merrimac series .....	61
from Triassic sandstone and conglomerate .....	4	Montauk series .....	61
5. Rumney-Saco-Podunk .....	5	Ninigret series .....	62
6. Holyoke-Wethersfield-Cheshire .....	5	Paxton series .....	62
7. Wethersfield-Ludlow-Wilbraham .....	5	Penwood series .....	63
8. Hartford-Manchester-Penwood .....	6	Podunk series .....	63
<b>Soil maps for detailed planning</b> .....	6	Raypol series .....	64
Soil descriptions and potentials .....	7	Ridgebury series .....	64
<b>Use and management of the soils</b> .....	41	Rumney series .....	65
Crops and pasture .....	41	Rumney Variant .....	65
Yields per acre .....	41	Saco series .....	66
Capability classes and subclasses .....	42	Scarboro series .....	66
Woodland management and productivity .....	42	Sudbury series .....	67
Engineering .....	43	Suncook series .....	67
Building site development .....	44	Udipsamments .....	68
Sanitary facilities .....	44	Udorthents .....	68
Construction materials .....	45	Walpole series .....	68
Water management .....	46	Westbrook series .....	68
Recreation .....	47	Wethersfield series .....	69
Wildlife habitat .....	47	Whitman series .....	69
<b>Soil properties</b> .....	49	Wilbraham series .....	70
Engineering properties .....	49	Windsor series .....	71
Physical and chemical properties .....	50	Woodbridge series .....	71
Soil and water features .....	50	Yalesville series .....	72
<b>Formation of the soils</b> .....	51	<b>Classification of the soils</b> .....	72
Climate .....	51	<b>References</b> .....	73
Parent material .....	52	<b>Glossary</b> .....	73
Living organisms .....	52	<b>Illustrations</b> .....	79
Relief .....	52	<b>Tables</b> .....	85

Issued February 1979

## Index to map units

	Page		Page
Aa—Adrian muck.....	7	LvC—Ludlow extremely stony silt loam, 3 to 15	
AfA—Agawam fine sandy loam, 0 to 3 percent		percent slopes .....	22
slopes.....	7	MgA—Manchester gravelly sandy loam, 0 to 3	
AfB—Agawam fine sandy loam, 3 to 8 percent		percent slopes .....	22
slopes.....	8	MgC—Manchester gravelly sandy loam, 3 to 15	
Ba—Beaches-Udipsamments complex .....	8	percent slopes .....	22
BcA—Berlin silt loam, 0 to 5 percent slopes.....	8	MyA—Merrimac sandy loam, 0 to 3 percent slopes...	23
BcA—Berlin silt loam, 0 to 5 percent slopes.....	8		

# Index to map units—Continued

	Page		Page
WvB—Windsor loamy sand, 3 to 8 percent slopes ....	37	WzA—Woodbridge extremely stony fine sandy loam, 0 to 3 percent slopes .....	39
WxA—Woodbridge fine sandy loam, 0 to 3 percent slopes .....	38	WzC—Woodbridge extremely stony fine sandy loam, 3 to 15 percent slopes .....	40
WxB—Woodbridge fine sandy loam, 3 to 8 percent slopes .....	38	YaB—Yalesville fine sandy loam, 3 to 8 percent slopes .....	40
WyA—Woodbridge very stony fine sandy loam, 0 to 3 percent slopes .....	38	YaC—Yalesville fine sandy loam, 8 to 15 percent slopes .....	40
WyB—Woodbridge very stony fine sandy loam, 3 to 8 percent slopes .....	39		

## Summary of tables

	Page
Acreage and proportionate extent of the soils (Table 4) .....	88
<i>Acres. Percent.</i>	
Building site development (Table 8) .....	101
<i>Shallow excavations. Dwellings without basements.</i>	
<i>Dwellings with basements. Small commercial build- ings. Local roads and streets. Lawns and landscap- ing.</i>	
Capability classes and subclasses (Table 6) .....	94
<i>Class. Total acreage. Major management concerns</i>	
<i>(Subclass)—Erosion (e), Wetness (w), Soil problem</i>	
<i>(s).</i>	
Classification of the soils (Table 17) .....	155
<i>Soil name. Family or higher taxonomic class.</i>	
Construction materials (Table 10) .....	115
<i>Roadfill. Sand. Gravel. Topsoil.</i>	
Engineering properties and classifications (Table 14) .....	136
<i>Depth. USDA texture. Classification—Unified,</i>	
<i>AASHTO. Fragments greater than 3 inches. Percent-</i>	
<i>age passing sieve number—4, 10, 40, 200. Liquid</i>	
<i>limit. Plasticity index.</i>	
Freeze dates in spring and fall (Table 2) .....	87
<i>Probability. Temperature.</i>	
Growing season length (Table 3) .....	87
<i>Probability. Daily minimum temperature during grow- ing season.</i>	
Physical and chemical properties of soils (Table 15) .....	146
<i>Depth. Permeability. Available water capacity. Soil re- action. Shrink-swell potential. Erosion factors—K, T.</i>	
Recreational development (Table 12) .....	124
<i>Camp areas. Picnic areas. Playgrounds. Paths and trails. Golf fairways.</i>	
Sanitary facilities (Table 9) .....	108
<i>Septic tank absorption fields. Sewage lagoon areas.</i>	
<i>Trench sanitary landfill. Area sanitary landfill. Daily cover for landfill.</i>	
Soil and water features (Table 16) .....	151
<i>Hydrologic group. Flooding—Frequency, Duration,</i>	
<i>Months. High water table—Depth, Kind, Months.</i>	
<i>Bedrock—Depth, Hardness. Potential frost action.</i>	
<i>Risk of Corrosion—Uncoated steel, Concrete.</i>	



## Summary of tables—Continued

	Page
Temperature and precipitation data (Table 1).....	86
<i>Month. Temperature—Average daily maximum, Average daily minimum, Average daily, Average number of growing degree days. Precipitation—Average, Average number of .days with 0.10 inch or more, Average snowfall.</i>	
Water management (Table 11) .....	120
<i>Pond reservoir areas. Embankments, dikes, and levees. Aquifer-fed excavated ponds. Drainage. Terraces and diversions. Grassed waterways.</i>	
Wildlife habitat potentials (Table 13) .....	131
<i>Potential for habitat elements—Grain and seed</i>	
<i>types. Grasses and legumes. Wild herbaceous</i>	
<i>plants, Hardwood trees, Coniferous plants, Wetland plants, Shallow water areas. Potential as habitat for—Openland wildlife, Woodland wildlife, Wetland wildlife.</i>	
Woodland management and productivity (Table 7) .....	95
<i>Ordination symbol. Management concerns—Erosion hazard, Equipment limitation, Seedling mortality, Windthrow hazard. Potential productivity—Common trees, Site index. Trees to plant.</i>	
Yields per acre of crops and pasture (Table 5) .....	90
<i>Corn silage. Irish potatoes. Alfalfa hay. Grass-legume hay. Grass hay. Pasture.</i>	



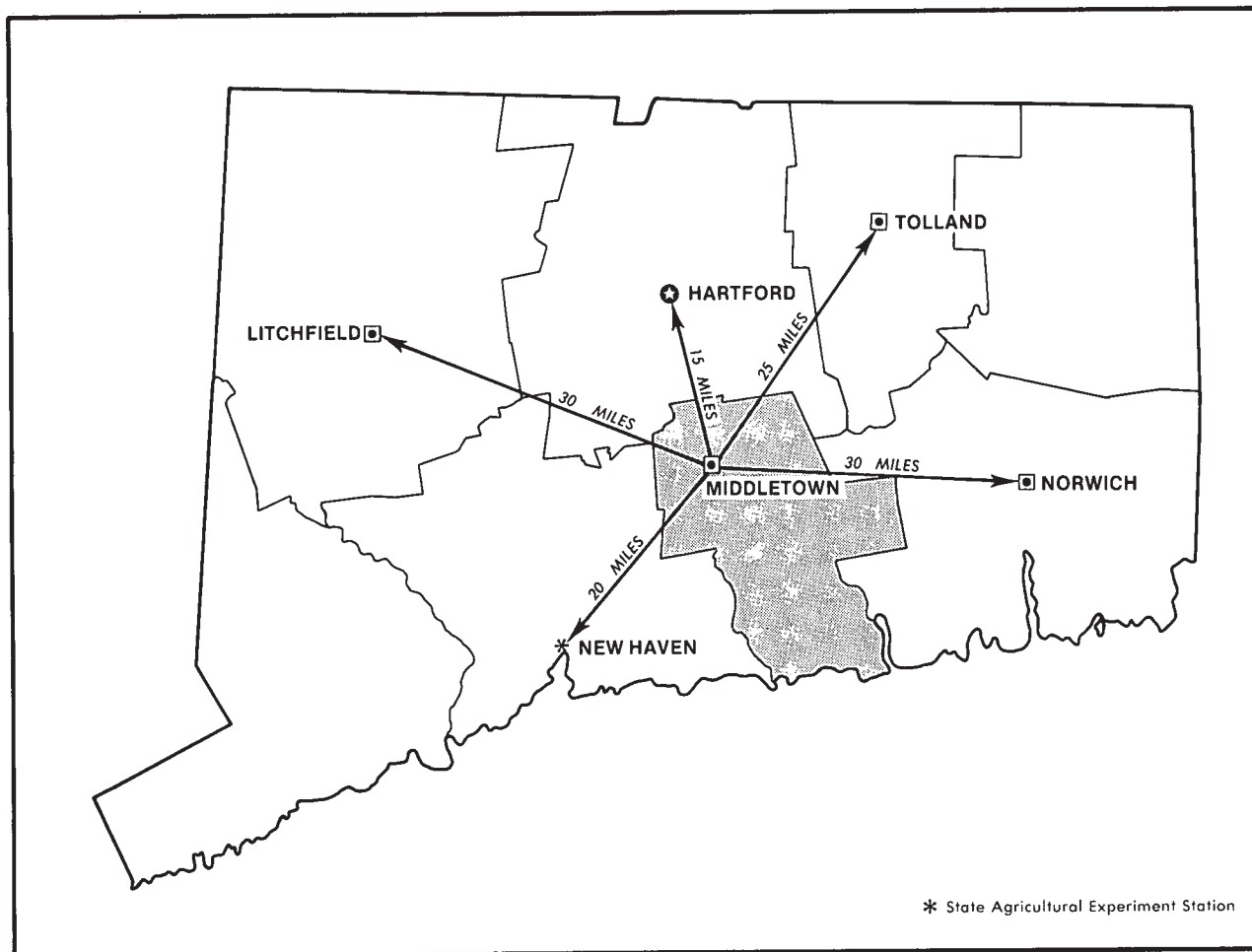
## Foreword

This soil survey contains much information useful in land-planning programs in Middlesex County, Connecticut. Of prime importance are the studies

tions of soil behavior for selected land uses. Also highlighted are limitations or hazards to land uses that are inherent in the soil, improvements needed to overcome these limitations, and the impact that selected land uses will have on the environment.

This soil survey has been prepared for many different users. Farmers, ranchers, foresters, and agronomists can use it to determine the potential of the soil and the management practices required for food and fiber production. Planners, community officials, engineers, developers, builders, and homebuyers can use it to plan land use, select sites for construction, develop soil resources, or identify any special practices that may be needed to insure proper performance. Conservationists, teachers, students, and specialists in recreation, wildlife management, waste disposal, and pollution control can use the soil survey to help them understand, protect, and enhance the environment.

Great differences in soil properties can occur even within short distances



*Location of Middlesex County in Connecticut.*



Soil  
Survey  
of

## Middlesex County, Connecticut

By Charles A. Reynolds, Soil Conservation Service

Fieldwork by Charles A. Reynolds, Marc H. Crouch, Steven L. Elmer,  
Philip S. Gale, Dennis E. Hutchison, Plater T. Campbell, Gerald W.  
Crenwelge, Wesley L. Miller, and Jerry L. Rives, Soil Conservation Service

United States Department of Agriculture, Soil Conservation Service  
in cooperation with  
Connecticut Agricultural Experiment Station  
Storrs Agricultural Experiment Station

MIDDLESEX COUNTY is in the south-central part of Connecticut. The county is drained by the Connecticut River and bordered on the south by Long Island Sound. Middlesex County is made up of 15 towns; it takes in an area of 237,400 acres, or 371 square miles. The county is in the New England physiographic province; the Connecticut River flows through the southwestern part of the

Early manufacturing plants were small and near areas where water power was available. Most of the early plants were in the Middletown area on the Coginchaug River, Sumner and Fall Brooks, and Pameacha Creek. A few plants were built along streams in Haddam and East Hampton. When steam power was introduced in the mid 1800's, the first large textile mill was located near railroad lines, which

precipitation and American Bottom record was 4.94 inches at Middletown on September 10

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meet local needs, mainly through field observations of different kinds of soil in different uses under different levels of management. Also, data are assembled from other sources, such as test results, records, field experi-

marshes. Most of the woodland in the county and many scattered areas used for farming are in these units.

#### 1. Canton-Hollis-Charlton

The Charlton soils are well drained. They formed in deep, friable, loamy glacial till. Typically, they have a surface layer of dark brown fine sandy loam; a subsoil of dark yellowish brown, yellowish brown, and light olive brown fine sandy loam and light yellowish brown gravelly sandy loam; and a substratum of brown fine sandy loam.

The minor soils in this map unit are mainly well drained Paxton and Montauk soils on drumlins, well drained Canton soils on glacial till plains, moderately well drained Woodbridge soils on concave slopes of glacial till plains, poorly drained Leicester and Ridgebury soils and very poorly drained Whitman soils in drainageways and depressions of till plains, and very poorly drained Adrian and Carlisle soils that formed in organic deposits.

Most areas of this unit are wooded. A few areas are in cultivated crops or pasture, and some are used for community development.

The Hollis soils have poor potential for most uses and are limited by bedrock, which is at a depth of 10 to 20 inches. The Charlton soils have good potential for most uses. Many areas of this unit have stones, boulders, and rock outcrops on the surface.

### 3. Paxton-Woodbridge

*Nearly level to steep, well drained and moderately well drained, loamy soils that have a compact substratum; on drumlinal glacial till uplands and broad glacial till plains.*

This map unit makes up about 25 percent of the county. The unit is about 45 percent Paxton soils, 40 percent Woodbridge soils, and 15 percent soils of minor extent.

The Paxton soils are gently sloping to steep and are well drained. The Woodbridge soils are moderately well drained.

limited mainly by slow or very slow permeability in the substratum and by a seasonal high water table. Many areas of this unit have stones and boulders on the surface.

### 4. Hinckley-Agawam-Merrimac

*Nearly level to steep, excessively drained to well drained, loamy and sandy soils; on glacial outwash plains and terraces*

This map unit makes up about 5 percent of the county. The unit is about 30 percent Hinckley soils, 25 percent Agawam soils, 20 percent Merrimac soils, and 25 percent soils of minor extent (fig. 2).

The Hinckley soils are gently sloping to steep and are excessively drained. Typically, they have a surface layer of dark grayish brown gravelly sandy loam, a subsoil of brown gravelly loamy sand and yellowish brown gravelly sand, and a substratum of brown and light brownish gray very gravelly sand.

The Agawam soils are nearly level to gently sloping and are well drained. Typically, they have a surface layer of dark brown fine sandy loam, a subsoil of dark brown and strong brown fine sandy loam, and a substratum of dark brown and grayish brown, stratified sand.

The Merrimac soils are nearly level to gently sloping and are somewhat excessively drained. Typically, they have a surface layer of very dark grayish brown sandy loam, a subsoil of brown and dark yellowish brown sandy loam and dark yellowish brown gravelly loamy sand, and a substratum of dark yellowish brown very gravelly sand.

The minor soils in this map unit are mainly very poorly



part of the county. Most of the orchards, vegetables, nursery stock, and tobacco are grown on the soils of these map units.

### 5. Rumney-Saco-Podunk

*Nearly level, moderately well drained to very poorly drained, loamy soils; on flood plains*

This map unit makes up about 5 percent of the county. The unit is about 40 percent Rumney soils, 20 percent Saco soils, 15 percent Podunk soils, and 25 percent soils of minor extent.

The Rumney soils are poorly drained. Typically, they have a surface layer of very dark brown fine sandy loam; a subsoil of dark grayish brown, mottled fine sandy loam and dark gray, mottled sandy loam; and a substratum of grayish brown, mottled sand.

The Saco soils are very poorly drained. Typically, they have a surface layer of very dark grayish brown mucky silt loam and a substratum of dark gray and very dark gray, mottled silt loam.

The Podunk soils are moderately well drained. Typically, they have a surface layer of dark brown fine sandy loam and dark grayish brown loamy fine sand; a subsoil of dark brown, mottled fine sandy loam; and a substratum of dark grayish brown and brown, mottled loamy fine sand.

The minor soils in this map unit are mainly somewhat excessively drained Merrimac soils on adjacent outwash plains and terraces, well drained Paxton and Canton soils on adjacent glacial till uplands, and somewhat excessively drained Hollis soils that have bedrock at a depth of 10 to 20 inches and that are on adjacent uplands.

Most areas of this map unit are cleared and used for pasture or are idle. A few areas are in cultivated crops. Many scattered areas are wooded. A few small areas are used for community development.

The soils of this map unit have poor potential for most uses. The main limitations are the hazard of flooding and

reddish brown and dark reddish brown loam, and a substratum of very firm, reddish brown gravelly loam.

The Cheshire soils are well drained. They formed in friable, glacial till. Typically, they have a surface layer of dark brown silt loam, a subsoil of yellowish red and reddish brown silt loam, and a substratum of dark reddish brown gravelly loam.

The minor soils in this map unit are mainly moderately well drained Ludlow soils and poorly drained Wilbraham soils on glacial till uplands, well drained Yalesville soils with bedrock at a depth of 20 to 40 inches, and well drained Branford soils and somewhat excessively drained Hartford soils on glacial outwash plains and terraces.

Most areas of this unit are wooded. Some areas are used for community development. A few scattered areas are cleared and farmed.

The Holyoke soils of this unit have poor potential for most uses. The main limitations are bedrock at a depth of 10 to 20 inches and steep slopes in places. The Cheshire and Wethersfield soils have fair potential for most uses. Cheshire soils are limited by steep slopes in places, and Wethersfield soils are limited mainly by a slowly permeable or very slowly permeable substratum. Many areas of this map unit have stones, boulders, and rock outcrops on the surface.

### 7. Wethersfield-Ludlow-Wilbraham

*Nearly level to steep, well drained to poorly drained, loamy soils that have a compact substratum; on drumloidal glacial till uplands and broad glacial till plains.*

This map unit makes up about 10 percent of the county. The unit is about 55 percent Wethersfield soils, 20 percent Ludlow soils, 10 percent Wilbraham soils, and 15 percent soils of minor extent (fig. 3).

The Wethersfield soils are gently sloping to steep and are well drained. They formed in firm, loamy glacial till. Typically, they have a surface layer of dark brown loam

and Carlisle soils formed in organic deposits. They are described in this section. The de-

Most areas of this unit are in cultivated crops. Scattered

are used for orchards, are wooded, or are idle.

The Wethersfield and Ludlow soils have fair potential

for most uses. The main limitations are slow or very slow

descriptions together with the soil maps can be useful in

determining the potential of a soil and in managing it for

food and fiber production; in planning land use and devel-

oping soil resources; and in enhancing, protecting, and

preserving the environment. More information for each

map unit, or soil, is given in the section "Use and man-

agement of the soils."

and Carlisle soils formed in organic deposits.

Most areas of this unit are in cultivated crops. Scattered

are used for orchards, are wooded, or are idle.

The Wethersfield and Ludlow soils have fair potential

for most uses. The main limitations are slow or very slow

descriptions together with the soil maps can be useful in

determining the potential of a soil and in managing it for

food and fiber production; in planning land use and devel-

oping soil resources; and in enhancing, protecting, and

preserving the environment. More information for each

Some of these soils have properties that differ substantially from those of the dominant soil or soils and thus could significantly affect use and management of the map unit. These soils are described in the description of each map unit. Some of the more unusual or strongly contrasting soils that are included are identified by a special symbol on the soil map.

Most mapped areas include places that have little or no soil material and support little or no vegetation. Such places are called *miscellaneous areas*; they are delineated on the soil map and given descriptive names. Pits, gravel, is an example. Some of these areas are too small to be delineated and are identified by a special symbol on the soil map.

The acreage and proportionate extent of each map unit are given in table 4, and additional information on properties, limitations, capabilities, and potentials for many soil uses is given for each kind of soil in other tables in this

This soil is poorly suited to cultivated crops because of wetness. Most areas are difficult to drain. If drained, the soil can be used to grow vegetables, but the water table needs to be carefully maintained to minimize subsidence and prevent excessive loss of organic material. If the soil is cultivated, cover crops are needed to prevent wind erosion.

This soil is poorly suited to trees, but most of the soil is wooded primarily with red maple, ash, and alder. Other common types of vegetation are sweet pepper brush, blueberry, viburnum, cinnamon fern, and royal fern. The use of equipment is difficult on this soil because of wetness. The soil has a severe windthrow hazard because the roots of trees are restricted by the high water table.

This soil has poor potential for community development. The major limitations are the high water table that is at or near the surface most of the year, frequent flooding or ponding, and the very low strength and poor stability of

This well has good potential for community develop. this complex is in the towns of Clinton, Old Saybrook, and

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crops. A few small areas have been used as a source of material for making bricks.

This soil is suited to cultivated crops. Providing drainage

Areas are irregular in shape and range from 5 to 50 acres. Slopes are smooth and less than 300 feet long.

Typically, the surface layer is dark reddish brown silt loam 6 inches thick. The subsoil is 17 inches thick. The

up early in the spring. Unlimed areas are very strongly acid to medium acid.

Most areas of this soil are in grass and alfalfa hay. Some scattered areas are used for community development. A few small areas are in woodland, are in pasture, or are idle.

This soil is suited to cultivated crops. The hazard of erosion is severe. The major management concern is controlling runoff and erosion. Minimum tillage, use of cover

Permeability of the Charlton soils is moderate or moderately rapid. Available water capacity is moderate. Runoff is medium. Charlton soils warm up and dry out early in the spring. Unlimed areas are very strongly acid to medium acid.

Most areas of this unit are cleared and used for crops or are idle. Some scattered areas are used for community development. The soils are suited to trees, and a few small areas are wooded.

tices.

This soil is well suited to trees, but only a small acreage is wooded.

This soil has fair potential for community development. Slope is the main limitaion, and steep slopes of excavations are unstable. Onsite septic systems need careful design and installation to prevent effluent from seeping to the surface. In places, onsite septic systems are a pollution hazard to ground water. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction. Capability subclass IIIe; woodland suitability

have a moderate erosion hazard. Minimum tillage, use of cover crops, and stripcropping are suitable management practices.

These soils have good potential for community development. Onsite septic systems need careful design and installation. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction. Capability subclass IIe; woodland suitability group 5o for Canton part, 4o for Charlton part.

**CcB—Canton and Charlton very stony fine sandy loams, 3 to 8 percent slopes.** These gently sloping, well

Runoff is medium. Charlton soils warm up and dry out early in the spring. Unlimed areas are very strongly acid to medium acid.

Most areas of this unit are used for woodland or pasture. These soils are suited to trees. Some scattered areas of these soils are used for community development. A few areas are cleared and idle.

These soils are poorly suited to cultivated crops. Stoniness severely limits the use of farming equipment. If the stones and boulders are removed, these soils are well suited to cultivated crops, but stone removal is difficult. These soils have a moderate erosion hazard. If the soils

The permeability of the Charlton soils is moderate or moderately rapid. Available water capacity is moderate. Runoff is rapid. Charlton soils warm up and dry out early in the spring. Unlimed areas are very strongly acid to medium acid.

Most areas of this unit are used for woodland or pasture. The soils are suited to trees. Some scattered areas of these soils are used for community development. A few areas are cleared and idle.

These soils are poorly suited to cultivated crops. Stoniness severely limits the use of farming equipment. These soils are suited to cultivated crops, if the stones and boulders are removed, but removal is difficult. These soils

tum. Available water capacity is moderate. Runoff is medium to rapid. Canton soils warm up and dry out early in the spring. Unlimed areas are extremely acid to medium acid.

The permeability of the Charlton soils is moderate or moderately rapid. Available water capacity is moderate. Runoff is medium to rapid. Charlton soils warm up and dry out early in the spring. Unlimed areas are very strongly acid to medium acid.

Most areas of this unit are used for woodland or pas-

well drained Paxton and Montauk soils, and moderately well drained Woodbridge soils.

The permeability of the Canton soils is moderately rapid in the surface layer and subsoil and rapid in the substratum. Available water capacity is moderate. Runoff is rapid. Except for areas that have north-facing slopes, Canton soils warm up and dry out early in the spring. Unlimed areas are extremely acid to medium acid.

The permeability of the Charlton soils is moderate or moderately rapid. Available water capacity is moderate.

Most of this soil is wooded. A few small areas have been cleared and drained. Cleared areas are used for vegetables or are idle.

This soil is poorly suited to cultivated crops because of wetness. Most areas are difficult to drain, but drained areas can be used for vegetables. If the soil is cultivated

are bedrock outcrops and a few areas where the stones and boulders have been cleared from the surface.

The permeability of the Charlton soils is moderate or moderately rapid. Available water capacity is moderate. Runoff is medium to rapid. Unlimed areas of the Charlton soils are very strongly acid to medium acid.

community development. A small acreage is idle or underlving bedrock and on upland till plains in the north-

wooded.

This soil is suited to cultivated crops. The hazard of erosion is moderate. Minimum tillage, use of cover crops, and including grasses and legumes in the cropping system are suitable management practices.

This soil is suited to trees, but only a small acreage is wooded.

western part of the county. These soils formed in glacial till derived from conglomerate, sandstone, shale, and basalt. Areas are oblong or irregular in shape and range from 5 to 250 acres. Slopes are smooth or complex and are mostly 100 to 300 feet long. Stones and boulders cover 0.1 to 3 percent of the surface. This complex is about 45 percent Cheshire soils, 30 percent Holyoke soils, and 25 percent other soils and bedrock outcrops. The

Capability subclass VIs; woodland suitability group 4o for Cheshire part, 5d for Holyoke part.

**EfA—Ellington fine sandy loam, 0 to 5 percent slopes.** This moderately well drained and nearly level to gently sloping soil is in slight depressional areas of broad outwash terraces and narrow stream valleys throughout the northwestern part of the county. These areas are dominantly irregular in shape and mostly range from 3 to 25 acres. Slopes are smooth and concave and are mostly less than 250 feet long.

Typically, the surface layer is dark reddish brown and dark brown fine sandy loam 6 inches thick. The subsoil is 23 inches thick. The upper 7 inches is brown fine sandy loam. The lower 16 inches is brown and reddish brown, mottled sandy loam. The substratum is 7 inches of red-

Typically, the surface layer is dark brown sandy loam 9 inches thick. The subsoil is 15 inches thick. The upper 7 inches is yellowish red sandy loam, and the lower 8 inches is reddish brown loamy sand. The substratum is reddish brown, stratified sand and gravel to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of excessively drained Manchester soils, well drained Branford soils, and moderately well drained Ellington soils. Included areas make up 5 to 15 percent of this map unit.

The permeability of this soil is moderately rapid in the surface layer and subsoil and rapid or very rapid in the substratum. Available water capacity is moderate. Runoff is slow. This soil dries out and warms up early in the

Most areas of this soil are in nursery stock and other cultivated crops. A few areas are wooded. Some scattered areas are used for community development.

This soil is suited to cultivated crops. Droughtiness and a moderate hazard of erosion are the major limitations. Irrigation, minimum tillage, use of cover crops, and returning crop residue to the soil are suitable management practices on this soil.

This soil is suited to trees. The major limitation is droughtiness.

This soil has good potential for community development. Droughtiness is the major limitation. Onsite sewage systems need careful design and installation, and steep side slopes of excavations are unstable. Lawn grasses, shallow-rooted trees, and shrubs need watering in the summer. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are

in summer. Quickly establishing plant cover is a suitable management practice during construction. Capability subclass IVs; woodland suitability group 5s.

**HME—Hinckley and Manchester soils, 15 to 45 percent slopes.** These soils are moderately steep to very steep and excessively drained. They are on kames and eskers of outwash terraces and plains. Areas are irregular in shape and range from 5 to 200 acres. Slopes are smooth or complex. Approximately 45 percent of the total acreage of this unit is Hinckley soils, 30 percent is Manchester soils, and 25 percent is other soils. The areas of this unit consist of Hinckley soils or Manchester soils or both. The Hinckley soils are throughout most of the county. The Manchester soils are in the northwestern part of the county. These soils were mapped together because they react similarly to use and management.

Typically, the surface layer of the Hinckley soils is dark



suitable management practices during construction. Capability evaluation is difficult to use because of stoniness, steep slopes, and extensive logging roads and trails need care.

ment is difficult to use because of stoniness, steep slopes, and extensive logging roads and trails need care.

**HpE—Hollis-Charlton extremely stony fine sandy loams, 15 to 40 percent slopes.** This complex consists of moderately steep to very steep, somewhat excessively drained and well drained soils on ridges where the relief is affected by the underlying bedrock on upland glacial till plains. These soils formed in glacial till derived mostly from granite, gneiss, and schist. Areas of this complex are irregular in shape and range from 5 to 250 acres. Slopes are smooth or complex and are mostly 100 to 800 feet long. The areas have a rough surface with bedrock out-

ful layout to prevent erosion.

This complex has poor potential for community development. The soils are limited mainly by the steep slopes, shallowness to bedrock, rock outcrops, and stoniness. Excavation is difficult because of the shallow depth to bedrock in many places. Onsite septic systems require very careful and often special design and installation. Many areas of this complex provide a scenic and picturesque setting for homes. The rock outcrops, stones, and boulders have esthetic value and are sometimes left undisturbed. During construction, suitable establishing plant

This complex is poorly suited to trees, but it is better suited to woodland than to most other uses. It is limited for woodland mainly by shallow depth to bedrock, stoniness, and the areas of Rock outcrop. Tree windthrow is a major concern because of the shallow rooting zone above the bedrock. Rock outcrops and stoniness limit the use of

This complex is not suited to cultivated crops. It is limited by steep slopes, Rock outcrop, stoniness, and shallow depth to bedrock.

This complex is poorly suited to trees, but it is better suited to woodland than to most other uses. It is limited for use as woodland mainly by the steep slopes. Rock

equipment. Machine planting is not feasible.

This complex has poor potential for community development. The complex is limited mainly by shallow depth to

outcrop, shallowness to bedrock, and stoniness. Tree windthrow is a major concern because of the shallow root zone. Rock outcrop, stoniness, and steep slopes hinder the use of most equipment. Machine planting of seedlings

Runoff is rapid. Unlimed areas of the Cheshire soils are extremely acid to medium acid.

Most of this complex is wooded. A few small areas are cleared and used for pasture or orchards or are idle. A few scattered areas are used for community development.

This complex is poorly suited to cultivated crops. The

medium to rapid. Unlimed areas of Holyoke soils are extremely acid to medium acid. The areas of Rock outcrop have very rapid runoff.

Most of this complex is wooded. A few small areas are cleared and are idle or used for pasture. A few scattered areas are used for community development.

soils are limited mainly by the steep slopes, shallow depth

This complex is not suited to cultivated crops. It is

to medium acid. Runoff is very rapid in areas of Rock outcrop.

Most of this complex is wooded. A few small, cleared areas are idle or used for pasture. A few scattered areas are used for community development.

This complex is not suited to cultivated crops. Steep slopes, Rock outcrop, stoniness, and shallowness to bedrock are the major limitations.

This complex is poorly suited to trees, but it is better suited to woodland use than to most other uses. This complex is limited for woodland use mainly because of steep slopes, rock outcrops, and shallowness to bedrock. Tree windthrow is a major concern because of the shallow root zone. Rock outcrops and steep slopes hinder the use of equipment. Machine planting of seedlings is not practical.

This complex has poor potential for community development. The complex is limited mainly by shallowness to bedrock, steep slopes, and rock outcrops. Excavation is difficult, and blasting is required in most places. Onsite septic systems require special design and installation. During construction, quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices. Capability subclass VIIc; woodland suitability group 5d for Holyoke part, Rock outcrop part not assigned to woodland group.

**LG—Leicester, Ridgebury, and Whitman extremely stony fine sandy loams.** This unit consists of nearly level to gently sloping, poorly drained and very poorly drained soils in drainageways and depressions of glacial till uplands. Areas are long and narrow or irregular in shape and range from 3 to 200 acres. Slopes range from 0 to 5 percent and are mostly 50 to 300 feet long. This unit has more than 3 percent of the surface covered with stones and boulders. The total acreage of this unit is about 40 percent Leicester soils, 25 percent Ridgebury soils, 15 percent Whitman soils and 20 percent other soils. The soils of this unit were mapped together because they react similarly to most uses and to management. Some areas of this unit contain only one of the major soils, and some areas contain two or three.

Typically, the surface layer of the Leicester soils is very

loam 17 inches thick. The substratum is light brownish gray, mottled, firm fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are areas that are made up of as much as 5 acres of moderately well drained Woodbridge soils, poorly drained Walpole soils, and very poorly drained Adrian soils. Also included are a few small areas of soils that have slopes of as much as 10 percent.

The permeability of the Leicester soils is moderate or moderately rapid. Available water capacity is moderate. Runoff is slow. Unlimed areas of the Leicester soils are very strongly acid or strongly acid above a depth of 40 inches and very strongly to medium acid below 40 inches.

The permeability of the Ridgebury soils is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate. Runoff is slow. Unlimed areas of the Ridgebury soils are very strongly acid to medium acid.

The permeability of the Whitman soils is moderate or moderately rapid in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate. Runoff is very slow or ponded. Unlimed areas of the Whitman soils are very strongly acid to slightly acid.

Most areas of this unit are wooded (fig. 5). A few small areas are used for pasture, and a few are idle. A few small, scattered areas are filled and used for community development.

The soils of this unit are poorly suited to cultivated crops. Stoniness and wetness are the major limitations. Farming is not practical on these soils.

The soils of this unit are suited to trees. The shallow rooting zone above the high water table causes tree windthrow. The use of equipment is limited by stones and wetness.

These soils have poor potential for community development. Wetness, stoniness, and the slow to very slow permeability of the substratum in the Ridgebury and Whitman soils are major limitations. These soils are not suited to community development unless they are extensively filled. Where practical, artificial drains help prevent unstable footings and wet basements. If the soils are cleared, removing stones and boulders is often difficult. In places

dark reddish brown, very firm, mottled gravelly loam to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of well drained Cheshire, Yalesville, and Wethersfield soils and poorly drained Wilbraham soils. Included areas make up 5 to 15 percent of this map unit.

The permeability of this soil is moderate in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate. Runoff is slow. This soil dries out and warms up slowly in the spring. Unlimed areas are very strongly acid to medium acid in the surface layer and subsoil and very strongly acid to slightly acid in

the surface layer and subsoil and very strongly acid to slightly acid in the substratum. This soil has a seasonal high water table at a depth of about 20 inches from late autumn until midspring.

Most of this soil is cleared and farmed or is idle. A few small areas are wooded. Some scattered areas are used for community development.

This soil is well suited to cultivated crops. Wetness is the major limitation, but artificial drainage enables tilling of the soil earlier in the spring and after heavy rains. The hazard of erosion is moderate. If the soil is cultivated, artificial drainage is necessary. Tillage use of cover crops

This soil is not suited to cultivated crops. Stoniness is the major limitation, and removal of stones is difficult. The

This soil has fair potential for community development. The soil is limited mainly by the seasonal high water table,

cover is a suitable management practice.

This soil has fair potential for community development. The slowly permeable or very slowly permeable substratum and the seasonal high water table are the major limitations. Onsite septic systems need careful design and installation. Artificial drains help prevent wet basements. Steep slopes of excavations tend to slump when saturated. Lawns are wet and soft in spring and autumn and for

tum, and stoniness. Onsite septic systems need careful design and installation. Artificial drains help prevent wet basements. Steep slopes of excavations tend to slump when saturated. Disposal of stones and boulders is difficult in places. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction. Capability subclass VII<sub>s</sub>; woodland suitability group 3x.

**MnA—Manchester gravelly sandy loam, 0 to 3 per-**

[illegible]

This soil has good potential for community development. Onsite septic systems cause pollution of ground water in places. Steep slopes of excavations are unstable.

soils or Montauk soils or both. The soils were mapped together because there is no significant difference that affects their use and management. The mapped acreage of this unit is about 40 percent Paxton soils, 40 percent

during the summer. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction. Capability subclass IIs; woodland suitability group 4s.

**NnA—Ninigret fine sandy loam, 0 to 5 percent slopes.** This nearly level, moderately well drained soil is on outwash plains and stream terraces. Areas are irregular in shape and range from 5 to 50 acres.

Typically, the surface layer is very dark grayish brown fine sandy loam 9 inches thick. The subsoil is 16 inches thick. The upper 5 inches is dark yellowish brown silt loam. The next 6 inches is yellowish brown very fine sandy loam. The lower 5 inches is dark brown fine sandy loam. The substratum is brown gravelly sand to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled

Montauk soils, and 20 percent other soils.

Typically, the surface layer of the Paxton soils is very dark grayish brown fine sandy loam 10 inches thick. The subsoil is brownish yellow and yellowish brown sandy loam 22 inches thick. The substratum is dark grayish brown, firm, gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Montauk soils is dark brown fine sandy loam 7 inches thick. The subsoil is 23 inches thick. The upper 13 inches is dark yellowish brown fine sandy loam. The lower 10 inches is dark yellowish brown and yellowish brown sandy loam. The substratum is dark yellowish brown, firm sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small, intermingled areas of well drained Canton and Charlton soils, moderately well drained Woodbridge soils, and poorly



feet long. Areas of this unit consist of either Paxton soils or Montauk soils or both. These soils were mapped together because there is no significant difference that affects their use and management. The mapped acreage of this unit is about 40 percent Paxton soils, 40 percent Montauk soils, and 20 percent other soils.

Typically, the surface layer of the Paxton soils is very dark grayish brown fine sandy loam 10 inches thick. The subsoil is brownish yellow and yellowish brown fine sandy loam 22 inches thick. The substratum is dark grayish brown, firm gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Montauk soils is dark brown fine sandy loam 7 inches thick. The subsoil is 23 inches thick. The upper 13 inches is dark yellowish brown fine sandy loam. The lower 10 inches is dark yellowish brown and yellowish brown sandy loam. The substratum is dark yellowish brown fine sandy loam to a depth of 60

to 50 acres. Slopes are smooth and convex and are mostly 100 to 600 feet long. Areas of this unit consist of Paxton soils or Montauk soils or both. These soils were mapped together because there is no significant difference that affects their use and management. The mapped acreage of this unit is about 40 percent Paxton soils, 40 percent Montauk soils, and 20 percent other soils.

Typically, the surface layer of the Paxton soils is very dark grayish brown fine sandy loam 10 inches thick. The subsoil is brownish yellow and yellowish brown fine sandy loam 22 inches thick. The substratum is dark grayish brown, firm gravelly fine sandy loam to a depth of 60 inches or more.

Typically, the surface layer of the Montauk soils is dark brown fine sandy loam 7 inches thick. The subsoil is 23 inches thick. The upper 13 inches is dark yellowish brown fine sandy loam. The lower 10 inches is dark yellowish

**PdB—Paxton and Montauk very stony fine sandy loams, 3 to 8 percent slopes.** These gently sloping, well drained soils are on drumlins and till plains of glaciated uplands. The soils have 0.1 to 3 percent of the surface covered with stones and boulders. Areas are oblong or irregular in shape and range from 5 to 200 acres. Slopes are smooth and convex and are mostly 100 to 300 feet

These soils are suited to trees. Machine planting is feasible, but the stones and boulders are a limitation in places.

These soils have fair potential for community development. They are mainly limited by the slowly permeable or very slowly permeable substratum. Onsite septic systems require careful design and installation. Steep slopes of

Most areas of these soils were cleared and are used as cropland or pasture, but many have reverted to woods or are idle. Some of the stones and smaller boulders have been removed in most places. A few areas are used for pasture or hay. Some small, scattered areas are used for community development.

These soils are poorly suited to cultivated crops because of stoniness. The soils are suited to pasture. The use of farming machinery is not practical. The hazard of erosion is severe, and minimum tillage and use of cover

few small areas of nonstony soils and a few areas of soils near the Connecticut River that have a redder substratum than the major soils in this unit.

The permeability of the Paxton soils is moderate in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate. Runoff is medium. Unlimed areas of the Paxton soils are strongly acid to slightly acid.

The permeability of the Montauk soils is moderate in the surface layer and subsoil and slow in the substratum.

nent plant cover are suitable management practices.

These soils are suited to trees. Machine planting is feasible, but the stones and boulders are a limitation in places.

These soils have fair potential for community development. They are mainly limited by the slowly permeable or very slowly permeable substratum. On sites with steep slopes

Available water capacity is moderate. Runoff is medium. Unlimed areas of the Montauk soils are extremely acid to medium acid.

Most areas of these soils are wooded. A few areas are cleared and used for pasture or are idle. Some scattered areas are used for community development.

These soils are not suited to cultivated crops. Stoniness

firm sandy loam. The lower 10 inches is dark yellowish brown and yellowish brown sandy loam. The substratum is dark yellowish brown, firm sandy loam to a depth of 60 inches or more.

Included with these soils in mapping are small, intermingled areas of well drained Canton and Charlton soils and moderately well drained Woodbridge soils. Also included are a few areas of soils near the Connecticut River that have a redder substratum than the major soils of this unit.

The permeability of the Paxton soils is moderate in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate. Runoff is rapid. Unlimed areas of the Paxton soils are strongly acid to slightly acid.

The permeability of the Montauk soils is moderate in

soils. Included areas make up 5 to 15 percent of this map unit.

The permeability of this soil is rapid. Available water capacity is low. Runoff is slow. This soil tends to dry out and warm up early in the spring. Unlimed areas are very strongly acid to slightly acid.

Most areas of this soil are in cultivated crops or hay. A few areas are wooded or idle. Some scattered areas are used for community development.

This soil is poorly suited to cultivated crops because it is droughty. Irrigation is needed. This soil dries out and warms up early in the spring and is easy to work. Minimum tillage, use of cover crops, and incorporating crop residue into the soil are suitable management practices.

This soil is poorly suited to trees. It is limited mainly by

Available water capacity is moderate. Runoff is medium. Unlimed areas of the Montauk soils are extremely acid to medium acid.

Most areas of these soils are wooded. A few areas are cleared and used for pasture or are idle. Some scattered areas are used for community development

periods.

This soil has good potential for community development. Onsite septic systems cause pollution of ground water in places. Steep slopes of excavations are unstable. Lawns, shallow-rooted trees, and shrubs need watering in the summer. Quickly establishing plant cover is a suitable

This soil has good potential for community development. Onsite septic systems cause pollution of ground water in places. Steep slopes of excavations are unstable. Lawns, shallow-rooted trees, and shrubs need watering in the summer. Quickly establishing plant cover and using siltation basins are suitable management practices during construction. Capability subclass III<sub>s</sub>; woodland suitability group 5<sub>s</sub>.

**Pr—Pits, gravel.** This unit consists of areas that have been excavated for sand or gravel. The areas are mostly on broad outwash plains and terraces of stream valleys. These areas generally have no vegetation except for a few sparse, drought-resistant plant species. The areas mostly range from 3 to 30 acres. Slopes generally range from 0 to 25 percent, but slopes are steeper on some escarpments along the edges of pits.

Included with this unit in mapping are small, intermingled areas of Udorthents and excessively drained Hinckley, Manchester, and Penwood soils. Also included are a few areas that have bedrock outcrops or small bodies of water and a few areas used for community development.

The permeability of this unit is rapid or very rapid. In places the water table is at or near the surface most of the year. A few areas are adjacent to streams and are subject to flooding.

Areas of this unit require onsite investigation and evaluation for most land-use decisions. Capability subclass and woodland suitability group not assigned.

**Ps—Podunk fine sandy loam.** This nearly level, moderately well drained soil is on flood plains of the major streams and their tributaries. Areas are dominantly long and narrow or irregular in shape and mostly range from 3 to 60 acres.

Typically, the surface layer is dark brown fine sandy loam and dark grayish brown loamy fine sand 11 inches thick. The subsoil is dark brown, mottled fine sandy loam 21 inches thick. The substratum is dark grayish brown and brown loamy fine sand to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of excessively drained Suncook soils and poorly drained Rumney soils. Also included are a few areas of soils that have a sandy loam surface layer and subsoil, a few areas in the northwestern part of the county of soils that are more red than this Podunk soil, and a few small areas of well drained soils. Included areas make up 5 to 15 percent of this map unit.

This soil has a seasonal high water table at a depth of about 20 inches from late autumn until midspring. The soil is subject to frequent flooding. Permeability is moderately rapid or rapid. Available water capacity is moderate. Runoff is slow. Unlimed areas are very strongly acid to slightly acid.

This soil is mostly wooded and is suited to trees. A few areas are cleared and used for cultivated crops. A few areas are idle, and a few scattered areas are used for

This soil is suited to crops. Wetness and flooding are the major limitations, and drainage is needed. This soil occasionally floods during the summer, damaging most crops. The soil warms up and dries out slowly in the spring. Minimum tillage and use of cover crops are suitable management practices.

This soil has poor potential for community development. The soil is limited mainly by wetness and the hazard of flooding. Steep slopes of excavations are unstable. Sediment deposited by flooding damages lawns, shrubs, and other types of landscaping. Quickly establishing plant cover and using siltation basins are suitable management practices during construction. Capability subclass II<sub>w</sub>; woodland suitability group 3<sub>o</sub>.

**Rb—Raypol silt loam.** This nearly level, poorly drained soil is in depressional areas of broad outwash plains and stream terraces. Areas are dominantly irregular in shape and mostly range from 3 to 30 acres. Slopes are 0 to 3 percent.

Typically, the surface layer is very dark grayish brown silt loam 10 inches thick. The subsoil is 14 inches thick. The upper 9 inches is grayish brown and light brownish gray, mottled silt loam. The lower 5 inches is brown, mottled very fine sandy loam. The substratum is brown, mottled sand to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of moderately well drained Ellington and Ninigret soils and poorly drained Walpole soils. Included areas make up 5 to 15 percent of this map unit.

The permeability of this soil is moderate in the surface layer and subsoil and very rapid or rapid in the substratum. Available water capacity is moderate. Runoff is slow. This soil dries out and warms up slowly in the spring. Unlimed areas are very strongly acid to strongly acid at a depth of less than 40 inches and strongly acid to slightly acid at a depth of more than 40 inches. This soil has a high water table at a depth of about 10 inches from fall until spring.

Most of this soil is wooded, or it is cleared and idle. A few areas are in cultivated crops, and a few scattered areas are used for community development.

This soil is poorly suited to cultivated crops. Wetness is the major limitation, and drainage is needed. Even if drained, this soil is wet for several days after heavy rains. Minimum tillage and use of cover crops are suitable management practices.

This soil is suited to trees. The major limitation is wetness. The use of equipment is restricted during the wetter times of the year. Tree windthrow, caused by the shallow rooting depth to the high water table, is common. Machine planting is difficult because of wetness.

This soil has poor potential for community development. Wetness is the major limitation. Onsite septic systems need very careful design and installation and require filling. Steep slopes of excavations are unstable. If suitable outlets are available, artificial drains can be used to help

autumn until late spring. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction. Capability subclass IIIw; woodland suitability group 4w.

**Rp—Rock outcrop-Hollis complex.** This complex consists of areas of hard, exposed bedrock and gently sloping to very steep, somewhat excessively drained soils on glacial uplands where the relief is affected by the underlying bedrock. Most areas have a rough surface with bedrock outcrops and a few narrow, intermittent drainageways and small, wet depressions. Slopes range from 3 to 45 percent and are mostly 100 to 500 feet long. This complex has 3 to 25 percent of the surface covered with stones and boulders. Areas are dominantly long and narrow, oval, or irregular in shape. Most areas range from 3 to 80 acres. Approximately 65 percent of this complex is Rock outcrop, 20 percent is Hollis soils, and 15 percent is other soils. Rock outcrop and Hollis soils are so intermingled that it was not practical to map them separately.

Typically, the surface layer of the Hollis soils is very dark grayish brown fine sandy loam 3 inches thick. The

generally needed for an onsite septic system. In places this complex provides sites for homes. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction. Capability subclass VIIc; woodland suitability group not assigned to Rock outcrop, 5d for Hollis part.

**Ru—Rumney fine sandy loam.** This nearly level, poorly drained soil is on flood plains of the major streams and their tributaries. Areas are dominantly long and narrow or irregular in shape and range from 3 to 120 acres. Slopes are 0 to 3 percent.

Typically, the surface layer is very dark brown fine sandy loam 4 inches thick. The subsoil is 27 inches thick. The upper 15 inches is dark grayish brown, mottled fine sandy loam. The lower 12 inches is very dark gray, mottled sandy loam. The substratum is grayish brown, mottled sand to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of excessively drained Suncook soils, moderately well drained Podunk soils, and poorly drained Rumney Variant soils. Also included are a few areas of soils that have a sandy loam surface layer and subsoil and areas of

**Rv—Rumney Variant silt loam.** This nearly level, poorly drained soil is on flood plains of the Coginchaug River and its tributaries. Areas are dominantly long and narrow, adjacent to shore and are 1/2 to 2/3 covered by water.

Included with this soil in mapping are small, intermingled areas of moderately well drained Podunk soils, poorly drained Rumney and Rumney Variant soils, and very poorly drained Westport soils. Included areas make up

Slopes range from 0 to 3 percent but are mostly less than 1 percent.

Typically, the surface layer is dark brown silt loam 11 inches thick. The subsoil is reddish brown mottled silt

about 10 percent of this map unit.

This soil is subject to frequent flooding. Areas adjacent to the Connecticut River in the southern part of the county are subject to daily fresh water flooding caused by the tide



and tree windthrow. Machine planting is not practical when the soil is wet.

This soil has poor potential for community development because of the high water table. Steep slopes of excavations are unstable. Extensive filling is needed in areas of this soil used for community development. During con-

siltation basins are suitable management practices. Capability subclass IIw; woodland suitability group 4o.

**St—Suncook loamy sand.** This nearly level to gently sloping, excessively drained soil is on flood plains mainly near the Connecticut River. These soils formed in recent sandy alluvium derived mainly from gneiss, schist, and granite. The areas are irregular in shape and range from 2

porary diversions, and establishing siltation basins are suitable management practices. Capability subclass Vw; woodland suitability group 5w.

**SgA—Sudbury sandy loam, 0 to 5 percent slopes.**

to 60 acres. Slopes range from 0 to 5 percent.

Typically, the surface layer is dark brown loamy sand 10 inches thick. The substratum is 14 inches of grayish brown sand over dark grayish brown and brown loamy



Most cut areas of this unit were used as a source for fill material. In some areas, cuts were made to level sites for buildings, recreation facilities, and roads. Most filled areas are used as sites for urban development. In some places fill has been used to build up recreation areas and highways.

The permeability and stability of the soils in this unit are variable. The unit requires onsite investigation and evaluation for most uses. Capability subclass and woodland suitability group not assigned.

**Ur—Urban land.** This unit consists of areas mostly covered by buildings, paved roads, and parking lots. Most of

This soil is suited to trees. It is limited mainly by wetness, which restricts the use of equipment and makes machine planting impractical. Tree windthrow is a hazard caused by the shallow rooting zone above the water table.

This soil has poor potential for community development. The soil is limited mainly by a high water table. Steep slopes of excavations are unstable. Onsite septic systems need very careful design and installation, and sites generally require extensive filling. If suitable outlets are available, artificial drains can be used to help prevent wet basements, but many places do not have suitable outlets. During construction, strictly establishing plant cover, pro-

This soil is subject to tidal flooding twice daily. The permeability of the soil is moderate to rapid in the organic layer and moderate in the underlying material. Runoff is very slow. Available water capacity is high. This soil is strongly acid to neutral in its natural condition and extremely acid if drained.

Most areas of this soil are undisturbed. Some small, scattered areas have been filled and used for community development.

These soils are not suited to cultivated crops, woodland, or community development because of wetness, daily tidal flooding, and a high salt content. Capability subclass VIIIw; woodland suitability group not assigned.

Typically, the surface layer is dark brown loam 8 inches thick. The subsoil is reddish brown and dark reddish brown loam 18 inches thick. The substratum is very firm, reddish brown gravelly loam to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of well drained Cheshire and Yalesville soils, moderately well drained Ludlow soils, and poorly drained Wilbraham soils. Also included are a few small areas with stones and boulders on the surface and a few areas of soils that have a silt loam or fine sandy loam surface layer. Included areas make up 5 to 15 percent of this map unit.

The permeability of this soil is moderate to rapid.

layer and subsoil and very strongly acid to medium acid in the substratum.

Most areas of this soil are wooded or are cleared and used for pasture. A few small areas are used for hay or community development.

This soil is poorly suited to cultivated crops because of the steep slopes. The erosion hazard is severe, and this

This soil is suited to trees. Machine planting is hindered by stones and boulders but is practical in most places.

This soil has fair potential for community development. The soil is limited mainly by the slow or very slow permeability of the substratum. Onsite septic systems need careful design and installation. Steep slopes of excavations slump when saturated. Removal of stones and boulders is necessary for terracing. Quickly establishing

**WnC—Wethersfield extremely stony loam, 3 to 15 percent slopes.** This gently sloping and sloping, well drained soil is on drumlins and side slopes of glacial till uplands. Stones and boulders cover 3 to 15 percent of the surface. Areas are irregular in shape and mainly range from 3 to 85 acres. Slopes are mostly 100 to 400 feet long.

Typically, the surface layer is dark brown loam 2 inches thick. The subsoil is reddish brown and dark reddish brown loam 24 inches thick. The substratum is very firm, reddish brown gravelly loam to a depth of 60 inches or more.

poorly drained Adrian soils. Also included are a few areas where as much as 3 percent of the surface is covered with stones and boulders and a few areas of soils have a friable and moderately permeable substratum. Included areas make up 5 to 15 percent of this map unit.

This soil has a seasonal high water table at a depth of about 8 inches from autumn until midspring. Permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate. Runoff is slow. This soil dries out and warms up slowly in the spring. Unlimed areas are very strongly acid to strongly acid in the surface layer and subsoil and

This soil has a seasonal high water table at a depth of about 8 inches from autumn until midspring. The permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate. Runoff is slow. This soil dries out and warms up slowly in the spring. Unlimed areas are very strongly acid to strongly acid in the surface layer and subsoil and very strongly acid to medium acid in the substratum.

Most of this soil is in woodland. A few small areas have been cleared and are in pasture or cropland. Some small, scattered areas are used for community development.

This soil is poorly suited to cultivated crops because of wetness and surface stoniness. Stones and boulders make the use of farming equipment impractical. Unless drained, this soil is too wet for the use of equipment from autumn until midspring. Even if drained, the soil remains wet for several days after heavy summer rains. Maintain-

Most areas of this soil are in cultivated crops. A few areas are wooded or idle. Some scattered areas are used for community development.

This soil is poorly suited to cultivated crops because it is droughty. Irrigation is needed. This soil dries out and warms up early in the spring and is easy to work. If irrigated, this soil is well suited to vegetables. Minimum tillage, returning crop residue to the soil, and the use of cover crops are suitable management practices.

This soil is suited to trees. Drought is the major limitation. Many seedlings do not survive dry periods during the summer.

This soil has good potential for community development. Steep slopes of excavations are unstable. Onsite septic systems are a pollution hazard to ground water in places. Lawns, shallow-rooted trees, and shrubs need watering in summer. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction.

septic systems are a pollution hazard to ground water in places. Lawns, shallow-rooted trees, and shrubs need watering in summer. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction. Capability subclass IIIs; woodland suitability group 5s.

**WxA—Woodbridge fine sandy loam, 0 to 3 percent slopes.** This nearly level, moderately well drained soil is on the top of drumlins and concave side slopes of glacial till uplands. Areas are oval or irregular in shape and range from 3 to 75 acres.

Typically, the surface layer is dark brown fine sandy loam 8 inches thick. The subsoil is 20 inches thick. The upper 7 inches is dark yellowish brown fine sandy loam. The lower 13 inches is yellowish brown and olive, mottled fine sandy loam. The substratum is olive, mottled, firm fine sandy loam to a depth of 60 inches or more.

acres. Slopes are mostly concave and are 100 to 500 feet long.

Typically, the surface layer is dark brown fine sandy loam 8 inches thick. The subsoil is 20 inches thick. The upper 7 inches is dark yellowish brown fine sandy loam. The lower 13 inches is yellowish brown and olive, mottled fine sandy loam. The substratum is olive, mottled, firm fine sandy loam to a depth of 60 inches or more.

Included with this soil in mapping are small, intermingled areas of well drained Paxton, Montauk, Charlton, and Canton soils and poorly drained Ridgebury and Leicester soils. Also included are a few areas of soils that have a friable and moderately permeable substratum. Included areas make up 5 to 15 percent of this map unit.

This soil has a seasonal high water table at a depth of about 18 inches from autumn until midspring. The permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum.

Canton soils and poorly drained Ridgebury and Leicester soils. Also included are a few areas of soils that have a friable and moderately permeable substratum. Included areas make up 5 to 15 percent of this map unit.

This soil has a seasonal high water table at a depth of about 18 inches from autumn until midspring. The permeability is moderate in the surface layer and subsoil and slow or very slow in the substratum. Available water capacity is moderate. Runoff is slow. Unlimed areas are strongly acid or medium acid.

capacity is moderate. Runoff is medium. Unlimed areas are strongly acid or medium acid.

Most of this soil is wooded. Cleared areas are used mainly for pasture or are idle. A few areas are used for crops, mainly hay. Some scattered areas are used for community development.

This soil is poorly suited to cropland because of stoniness. Stones and boulders severely hinder the use of farming equipment. The soil is wet from late autumn until midspring and for several days after heavy summer rains.

Minimum tillage and maintaining permanent plant cover

cal. Maintaining permanent plant cover is a suitable management practice.

This soil is suited to trees. Stoniness limits the use of some equipment and makes machine planting impractical.

This soil has fair potential for community development. The soil is limited mainly by wetness, the slowly permeable or very slowly permeable substratum, and stoniness. Steep slopes of excavations slump when saturated. Onsite septic systems need very careful design and installation, and sites require filling in places. Removal of stones and boulders is necessary for most uses. Lawns

and sites require filling in places. Removal of stones and boulders is necessary for most uses. Lawns are wet and soggy from autumn until midspring and for several days after heavy summer rains. Artificial drains help prevent wet basements and lawns. Quickly establishing plant cover, providing temporary diversions, and establishing siltation basins are suitable management practices during construction. Capability subclass VII; woodland suitability group 3x.

**YaB—Yalesville fine sandy loam, 3 to 8 percent slopes.** This gently sloping, well-drained soil is on hills



and range from 5 to 75 acres. Slopes are smooth and 100 to 300 feet long.

Typically, the surface layer is dark brown fine sandy loam 10 inches thick. The subsoil is yellowish red and reddish brown fine sandy loam 20 inches thick. Reddish brown sandstone bedrock is at a depth of 30 inches.

Included with this soil in mapping are small, intermingled areas of somewhat excessively drained Holyoke soils, well drained Cheshire and Wethersfield soils, and moderately well drained Ludlow soils. Also included are a few areas of soils that have a silt loam surface layer. Included areas make up 5 to 15 percent of this map unit.

The permeability of this soil is moderate or moderately rapid above the bedrock. Available water capacity is high. Runoff is rapid. Unlimed areas are very strongly acid to medium acid.

Most of this soil is in cultivated crops. Some scattered areas are used for community development. A few small

sites for buildings, highways and other transportation systems, sanitary facilities, and parks and other recreation facilities, and for wildlife habitat. From the data presented, the potential of each soil for specified land uses can be determined, soil limitations to these land uses can be identified, and costly failures in houses and other structures, caused by unfavorable soil properties, can be avoided. A site where soil properties are favorable can be selected, or practices that will overcome the soil limitations can be planned.

Planners and others using the soil survey can evaluate the impact of specific land uses on the overall productivity of the survey area or other broad planning area and on the environment. Productivity and the environment are closely related to the nature of the soil. Plans should maintain or create a land-use pattern in harmony with the natural soil.

Contractors can find information that is useful in locat-

ties of grasses and legumes suited to the climate and the soil. A few farmers may be obtaining average yields higher than those shown in table 5.

The following considerations indicate the indicated

Class III soils have severe limitations that reduce the choice of plants, or that require special conservation practices, or both.

Class IV soils have very severe limitations that reduce

rockiness; *w*, excessive water in or on the soil; *d*, restricted root depth; *s*, sandy texture; and *r*, steep slopes. The letter *o* indicates insignificant limitations or restrictions. If a soil has more than one limitation, priority in placing the soil into a limitation class is in the following order: *x*, *w*, *d*, *s*, and *r*.

In table 7 the soils are also rated for a number of

Engineering

Whitney T. Ferguson, Jr., state conservation engineer, Soil Conservation Service, Storrs, Connecticut, assisted in preparing this section.

This section provides information about the use of soils for building sites, sanitary facilities, construction material, and water management. Among these uses are: building

## Building site development

*Local roads and streets* referred to in table 8 have an all-weather surface that can carry light to medium traffic all year. They consist of a subgrade of the underlying soil material; a base of gravel, crushed rock fragments, or soil material stabilized with lime or cement; and a flexible or rigid surface, commonly asphalt or concrete. The roads

**Lawns and landscaping** require soils that are suitable for the establishment and maintenance of turf for lawns and ornamental trees and shrubs for landscaping. The best soils are firm after rains, are not dusty when dry, and

properties that affect ease of excavation or installation of these facilities will be of interest to contractors and local officials. Table 9 shows the degree and kind of limitations of each soil for such uses and for use of the soil as daily cover for landfills. It is important to observe local ordinances and regulations.

If the degree of soil limitation is expressed as *slight*,

affect the suitability of sites for sewage lagoons or the cost of construction. Shear strength and permeability of compacted soil material affect the performance of embankments.

*Sanitary landfill* is a method of disposing of solid waste by placing refuse in successive layers either in excavated trenches or on the surface of the soil. The waste is spread, compacted, and covered daily with a thin layer of

limitations are minor and easily overcome; if *moderate*, soil properties or site features are unfavorable for the specified use, but limitations can be overcome by special planning and design; and if *severe*, soil properties or site features are so unfavorable or difficult to overcome that major soil reclamation, special designs, or intensive maintenance is required. Soil suitability is rated by the terms *good*, *fair*, and *poor*, which mean about the same as *slight*, *moderate*, and *severe*.

*Septic tank absorption fields* are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into the natural soil. Only the soil horizons between depths of 18 and 72 inches are evaluated for this use. The soil properties and site features considered are those that affect the absorption of the effluent and those that affect the construction of the system(3).

soil material. Landfill areas are subject to heavy vehicular traffic. Risk of polluting ground water and trafficability affect the suitability of a soil for this use. The best soils have a loamy or silty texture, have moderate to slow permeability, are deep to a seasonal water table, and are not subject to flooding. Clayey soils are likely to be sticky and difficult to spread. Sandy or gravelly soils generally have rapid permeability, which might allow noxious liquids to contaminate ground water. Soil wetness can be a limitation, because operating heavy equipment on a wet soil is difficult. Seepage into the refuse increases the risk of pollution of ground water.

Ease of excavation affects the suitability of a soil for the trench type of landfill. A suitable soil is deep to bedrock and free of large stones and boulders. If the seasonal water table is high, water will seep into trenches.

Unless otherwise stated, the limitations in table 9 apply

*Roadfill* is soil material used in embankments for roads. Soils are evaluated as a source of roadfill for low embankments, which generally are less than 6 feet high and less exacting in design than high embankments. The ratings reflect the ease of excavating and working the material and the expected performance of the material where it has been compacted and adequately drained. The performance of soil after it is stabilized with lime or cement is not considered in the ratings, but information about some of the soil properties that influence such performance is given in the descriptions of the soil series.

Soils rated *good* have at least 16 inches of friable loamy material at their surface. They are free of stones and cobbles, are low in content of gravel, and have gentle slopes. They are low in soluble salts that can restrict plant growth. They are naturally fertile or respond well to fertilizer. They are not so wet that excavation is difficult during most of the year.

Soils rated *fair* are loose sandy soils or firm loamy or clayey soils in which the suitable material is only 8 to 16 inches thick or soils that have appreciable amounts of gravel, stones, or soluble salt.

The ratings apply to the soil material between the sur-

to flooding; salinity and alkalinity; and availability of outlets for drainage.

firm, and is not dusty when dry. Strong slopes and stones or boulders can greatly increase the cost of constructing

nation of channels and ridges constructed across a slope to intercept runoff. They allow water to soak into the soil or flow slowly to an outlet. Features that affect suitability of a soil for terraces are uniformity and steepness of slope; depth to bedrock, hardpan, or other unfavorable material; large stones; permeability; ease of establishing vegetation; and resistance to water erosion, soil blowing, soil slipping, and piping.

*Picnic areas* are subject to heavy foot traffic. Most vehicular traffic is confined to access roads and parking areas. The best soils for use as picnic areas are firm when wet, are not dusty when dry, are not subject to flooding during the period of use, and do not have slopes or stones or boulders that will increase the cost of shaping sites or of building access roads and parking areas.

*Playgrounds* require soils that can withstand intensive foot traffic. The best soils are almost level and are not

Soils directly affect the kind and amount of vegetation that is available to wildlife as food and cover, and they affect the construction of water impoundments. The kind and abundance of wildlife that populate an area depend largely on the amount and distribution of food, cover, and water. If any one of these elements is missing, is inad-

*Wild herbaceous plants* are native or naturally established grasses and forbs, including weeds, that provide food and cover for wildlife. Major soil properties that affect the growth of these plants are depth of the root zone, texture of the surface layer, available water capacity, wetness, surface stoniness, and flood hazard. Soil tempera-

not inhabit the area.

If the soils have the potential, wildlife habitat can be created or improved by planting appropriate vegetation, by maintaining the existing plant cover, or by helping the

of wild herbaceous plants are bluestem, goldenrod, beggarweed, wheatgrass, and grama.

*Hardwood trees* and the associated woody understory provide cover for wildlife and produce nuts or other fruit,



legumes, and wild herbaceous plants. Wildlife attracted to these areas include ruffed grouse, woodcock, thrushes, woodpeckers, squirrels, raccoon, and deer.

*Wetland habitat* consists of open, marshy or swampy, shallow water areas where water-tolerant plants grow. Some of the wildlife attracted to such areas are ducks, geese, herons, shore birds, muskrat, mink, and beaver.

## Soil properties

Extensive data about soil properties are summarized on the following pages. The two main sources of these data are the many thousands of soil borings made during the course of the survey and the laboratory analyses of selected soil samples from typical profiles.

In making soil borings during field mapping, soil scientists can identify several important soil properties. They note the seasonal soil moisture condition or the presence of free water and its depth. For each horizon in the profile, they note the thickness and color of the soil material; the texture, or amount of clay, silt, sand, and gravel or other coarse fragments; the structure, or the natural pattern of cracks and pores in the undisturbed soil; and the consistency of the soil material in place under the existing soil moisture conditions. They record the depth of plant roots, determine the pH or reaction of the soil, and identify any free carbonates.

clay in soil material that is less than 2 millimeters in diameter. "Loam," for example, is soil material that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If a soil contains gravel or other particles coarser than sand, an appropriate modifier is added, for example, "gravelly loam." Other texture terms are defined in the Glossary.

The two systems commonly used in classifying soils for engineering use are the Unified Soil Classification System (2) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO) (7).

The *Unified* system classifies soils according to properties that affect their use as construction material. Soils are classified according to grain-size distribution of the fraction less than 3 inches in diameter, plasticity index, liquid limit, and organic-matter content. Soils are grouped into 15 classes—eight classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; six classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and one class of highly organic soils, identified as Pt. Soils on the borderline between two classes have a dual classification symbol, for example, CL-ML.

The *AASHTO* system classifies soils according to those properties that affect their use in highway construction and maintenance. In this system a mineral soil is classified in one of seven basic groups ranging from A-1

of test data from the survey area or from nearby areas and on observations of the many soil borings made during the survey.

In some surveys, the estimates are rounded to the nearest 5 percent. Thus, if the ranges of gradation and Atterburg limits extend a marginal amount across classification boundaries (1 or 2 percent), the classification in the marginal zone is omitted.

required if the planned use of the soil will not tolerate large volume changes.

*Erosion factors* are used to predict the erodibility of a soil and its tolerance to erosion in relation to specific kinds of land use and treatment. The soil erodibility factor (K) is a measure of the susceptibility of the soil to erosion by water. Soils having the highest K values are the most erodible. K values range from 0.10 to 0.64. To estimate annual soil loss per acre, the K value of a soil is modified by factors representing slope, cover, grade, and length of

the effects of flooding, namely thin strata of gravel, sand, silt or in places clay deposited by floodwater, irregular to frost action. Well drained very gravelly or sandy soils

throughout the year. Detailed information on climate is given in the section "General nature of the county."

Temperature and precipitation are the elements of climate that most affect soil formation. These elements act directly on parent material and indirectly on living organisms. Water moving through a soil alters the chemical composition of the soil over a period of time. The rate at which soluble chemicals are leached from the soil is related to the amount of precipitation. Rainfall erodes unprotected soils.

Temperature influences the native vegetation that covers the landscape, the living organisms in the soil, and the rate of chemical weathering. The mean annual temperature of 50 degrees F in the county causes high bio-

smaller particle sizes and finer textures than the substratum.

The youngest soils in the county formed in alluvial sediment on flood plains. In most places these soils receive annual deposits of sediment.

Other young soils in the county are in tidal marshes near Long Island Sound. These areas receive small deposits of silt and clay from daily tidal inundation and from surrounding uplands. The sediments are deposited with the remains of salt-tolerant plants in the marshes.

### Living organisms

One of the common features that distinguishes a soil from the parent material from which it formed is the ex-

Relief influences the drainage of soils. Poorly drained and very poorly drained soils are in nearly level or concave positions and depressions on the landscape. Moderately well drained soils are on nearly level to sloping, generally concave positions. Well drained to excessively drained soils are on convex slopes and the higher parts of

sions and along small, slow-moving streams. Slopes range from 0 to 2 percent but are dominantly less than 1 percent.

Adrian soils are associated on the landscape with very poorly drained Scarboro soils, poorly drained Walpole soils, and excessively drained Hinckley and Manchester

Adrian soils form glacial deposits of organic material

soils, poorly drained Walpole soils, and very poorly drained Scarborough soils.

Typical pedon of Agawam fine sandy loam, 0 to 3 percent slopes, in the town of Essex, 2,500 feet southeast of

B21—3 to 7 inches, reddish brown (5YR 4/4) silt loam; weak medium subangular blocky structure; firm; common fine roots; strongly acid; clear wavy boundary.

B22—3 to 10 inches, reddish brown (5YR 4/4) silt loam;

common fine roots; 10 percent coarse fragments; strongly acid; abrupt wavy boundary.

B21—6 to 17 inches, yellowish red (5YR 4/6) very fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 10 percent coarse fragments; very strongly acid; gradual wavy boundary.

B22—17 to 23 inches, reddish brown (5YR 4/4) gravelly very fine sandy loam; weak medium subangular blocky structure; friable; few fine roots; 25 percent coarse fragments; very strongly acid; gradual wavy boundary.

IIC—23 to 60 inches, dark reddish brown (2.5YR 4/4) very gravelly sand; single grained; loose; stratified; very few fine roots; 60 percent coarse fragments; very strongly acid.

The solum is 20 to 40 inches thick, and the depth to sand and gravel is also 20 to 40 inches. Coarse fragments make up 5 to 25 percent of the solum and 10 to 70 percent of the substratum. Unlimed areas of the soil are very strongly acid through medium acid.

The A horizon has hue of 5YR through 10YR, value of 2 or 3, and chroma of 1 through 3. Structure is weak medium or coarse granular.

The B horizon has hue of 5YR, value of 3 through 5, and chroma of 3 through 6. This horizon is silt loam, very fine sandy loam, fine sandy loam, or their gravelly analogs. Structure is weak medium or coarse subangular blocky, or the horizon is massive. Consistence is friable or very friable.

The IIC horizon has hue of 5YR or 2.5YR, value of 4 through 6, and chroma of 3 through 6. This horizon is gravelly sand or very gravelly sand.

### Canton series

The Canton series consists of coarse-loamy over sandy

A1—0 to 2 inches, very dark grayish brown (10YR 3/2) fine sandy loam; weak medium granular structure; friable; many fine roots; 10 percent coarse fragments; strongly acid; abrupt smooth boundary.

Ap—2 to 6 inches, dark brown (10YR 3/3) fine sandy loam; weak subangular blocky structure; friable; many fine roots; 10 percent coarse fragments; strongly acid; abrupt wavy boundary.

B21—6 to 11 inches, dark brown (7.5YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; many fine and medium roots; 10 percent coarse fragments; strongly acid; clear wavy boundary.

B22—11 to 19 inches, dark yellowish brown (10YR 4/6) fine sandy loam; weak medium subangular blocky structure; friable; common fine and medium roots; 10 percent coarse fragments; strongly acid; clear wavy boundary.

IIC—19 to 60 inches, light brownish gray (10YR 6/2) gravelly loamy sand; single grained; loose; few medium roots; 20 percent coarse fragments; medium acid.

The solum is 18 to 36 inches thick. Rock fragments make up 5 to 30 percent of the solum and 20 to 60 percent of the substratum. Unlimed areas of the soil are extremely acid through medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 through 3. Consistence is friable or very friable.

The B21 horizon has hue of 7.5YR or 10YR, value of 4 or 5, and chroma of 4 through 8. The B22 horizon has hue of 10YR or 2.5Y, value of 4 through 7, and chroma of 4 through 6. The B horizon is fine sandy loam, loam, very fine sandy loam, or their gravelly analogs. Structure is weak granular or weak subangular blocky, or the horizon is massive. Consistence is very friable or friable.

The IIC horizon has hue of 10YR through 5Y, value of 5 through 7, and chroma of 2 through 3. This horizon is

Typical pedon of Carlisle muck, in the town of Old Saybrook, about 3,000 feet north of Interstate Route 95, on Ingham Hill Road, and 1,650 feet west of Chalkers Mill Pond, in Cedar Swamp:

O1—2 inches to 0, partially decomposed leaves and twigs.

Oa1—0 to 3 inches, dark reddish brown (5YR 3/3) muck (sapric material) broken face, dark reddish brown (5YR 2/2) rubbed; 35 percent fibers, 5 percent rubbed; weak medium granular structure; very friable; many fine roots; few woody fragments 1/4 inch to 6 inches in diameter; very strongly acid; clear smooth boundary.

Oa2—3 to 8 inches, black (5YR 2/1) broken face and rubbed muck (sapric material); about 3 percent fibers, 1 percent rubbed; moderate medium subangular blocky structure; friable; few fine and medium roots; very strongly acid; clear smooth boundary.

Oa3—8 to 24 inches, dark reddish brown (5YR 2/2) muck (sapric material) broken face, black (5YR 2/1) rubbed; about 30 percent fibers, 1 percent rubbed; moderate medium subangular blocky structure; friable; common fine and medium roots; 10 percent woody fragments 1/4 inch to 6 inches in diameter; very strongly acid; gradual smooth boundary.

Oa4—24 to 60 inches, dark reddish brown (5YR 2/2) broken face and rubbed muck (sapric material); about 10 percent fibers, 1 percent rubbed; weak coarse subangular blocky structure; friable; few fine roots; thin lenses of sand and gravel; about 10 percent mineral material; very strongly acid.

The organic layers are more than 51 inches thick. Woody fragments of twigs, branches, and logs 1/4 inch to 6 inches in diameter make up as much as 10 percent, by volume, of the organic layers. The soil is very strongly acid through medium acid.

The surface layer has hue of 5YR through 10YR. value

slopes of glacial uplands. Slopes range from 3 to 40 percent but are dominantly 3 to 15 percent.

The Charlton soils are associated on the landscape with somewhat excessively drained Hollis soils; well drained Canton, Paxton, and Montauk soils; moderately well drained Woodbridge soils; poorly drained Leicester and Ridgebury soils; and very poorly drained Whitman soils. Charlton soils have a finer textured substratum than Canton soils and a more friable substratum than Paxton or Montauk soils.

Typical pedon of Charlton fine sandy loam, in an area of Charlton very stony fine sandy loam, 8 to 15 percent slopes, in the town of East Hampton, 2,000 feet south of Loos Pond, and 3,000 feet north of the intersection of White Birch Road and Lake Drive:

O2—2 inches to 0, litter of pine needles.

A1—0 to 2 inches, dark brown (10YR 3/3) fine sandy loam; weak fine granular structure; friable; 5 percent coarse fragments; strongly acid; abrupt wavy boundary.

B21—2 to 10 inches; dark yellowish brown (10YR 4/4) fine sandy loam; weak medium subangular blocky structure; friable; 10 percent coarse fragments; strongly acid; gradual wavy boundary.

B22—10 to 24 inches, yellowish brown (10YR 5/4) fine sandy loam; weak medium subangular blocky structure; friable; 10 percent coarse fragments; strongly acid; gradual wavy boundary.

B23—24 to 32 inches, light olive brown (2.5Y 5/4) fine sandy loam; weak medium subangular blocky structure; friable; 10 percent coarse fragments; strongly acid; gradual wavy boundary.

B3—32 to 36 inches, light yellowish brown (2.5Y 6/4) gravelly sandy loam; massive; very friable; 20 percent coarse fragments; medium acid; gradual wavy boundary.

C—36 to 60 inches, brown (10YR 5/3) fine sandy loam; massive; very friable; 10 percent coarse fragments; medium acid.



## Cheshire series

The Cheshire series consists of coarse-loamy, mixed, mesic Typic Dystrochrepts. These soils are well drained and nonstony to very stony. They formed in glacial till derived mainly from sandstone, conglomerate, shale, and some basalt. Cheshire soils are on broad hilltops, ridge-tops, and side slopes of glacial till. Slopes range from 3 to 35 percent but are dominantly 3 to 15 percent.

Cheshire soils are associated on the landscape with somewhat excessively drained Holyoke soils, well drained Wethersfield and Yalesville soils, moderately well drained Ludlow soils, and poorly drained Wilbraham soils. Cheshire soils have a more friable substratum than Wethersfield soils and are deeper to bedrock than Yalesville soils.

Typical pedon of Cheshire silt loam, 3 to 8 percent slopes, in the town of Middlefield, 200 feet west and 50 feet north of the intersection of Lake Road and Lakeshore Drive:

Ap—0 to 8 inches, dark brown (7.5YR 4/2) silt loam; weak medium granular structure; friable; common fine and medium roots; 10 percent coarse fragments; very strongly acid; abrupt smooth boundary.

B21—8 to 16 inches, yellowish red (5YR 4/6) silt loam; weak medium subangular blocky structure; friable; common fine and medium roots; 10 percent coarse fragments; strongly acid; clear wavy boundary.

B22—16 to 26 inches, reddish brown (5YR 4/4) silt loam; weak medium subangular blocky structure; friable; few fine and medium roots; 15 percent coarse fragments; strongly acid; clear wavy boundary.

C—26 to 60 inches, dark reddish brown (5YR 3/4) sand

repts. These soils are moderately well drained. They formed in a loamy mantle over outwash sand and gravel derived mainly from sandstone, conglomerate, shale, and basalt. Ellington soils are on outwash terraces of stream valleys. Slopes range from 0 to 5 percent. In this survey area these soils are a taxadjunct because they do not have the contrasting textures typical of the soils in the Ellington series.

Ellington soils are in a drainage sequence with well drained Branford soils. Ellington soils are associated on the landscape with excessively drained Manchester soils, somewhat excessively drained Hartford soils, and poorly drained Raypol and Walpole soils.

Typical pedon of Ellington fine sandy loam, 0 to 5 percent slopes, in the town of Middlefield, 600 feet west of Connecticut Highway 17, 1,300 feet north of the Durham town line, and 200 feet west of the Middletown town line:

A1—0 to 2 inches, dark reddish brown (5YR 3/2) fine sandy loam; weak medium granular structure; friable; many fine and very fine roots; 5 percent coarse fragments; very strongly acid; abrupt smooth boundary.

Ap—2 to 6 inches, dark brown (7.5YR 4/2) fine sandy loam; weak medium subangular blocky structure; friable; many fine and very fine roots; 5 percent coarse fragments; very strongly acid; abrupt smooth boundary.

B21—6 to 13 inches, dark brown (7.5YR 4/4) fine sandy loam; massive; friable; few fine and medium roots; 5 percent coarse fragments; very strongly acid; clear smooth boundary.

B22—13 to 26 inches, dark brown (7.5YR 4/4) sandy

The B horizon has hue of 2.5YR or 5YR, value of 4 or 5, and chroma of 3 through 6. In some pedons this horizon has hue of 7.5YR. The B horizon is silt loam, loam, fine sandy loam, or sandy loam. Structure is weak, medium, subangular blocky, or the horizon is massive. Consistence is friable or very friable.

The IIC horizon has hue of 2.5YR or 5YR, value of 3 through 5, and chroma of 3 through 6. This horizon is loamy sand to sand or their gravelly and very gravelly analogs.

### Hartford series

The Hartford series consists of sandy, mixed, mesic

The IIC horizon has hue of 2.5YR or 5YR, value of 4 through 6, and chroma of 3 through 6. This horizon is stratified sand and gravel.

### Hinckley series

The Hinckley series consists of sandy-skeletal, mixed, mesic Typic Udorthents. These soils are excessively drained. Hinckley soils are on stream terraces, kames, and eskers. These soils formed in water-sorted sand, gravel, and cobbles derived mainly from granite, gneiss, and schist. Slopes range from 3 to 45 percent but are dominantly 3 to 15 percent.

Hinckley soils are associated on the landscape with excessively drained Milledgeville series sand, silt, and gravel.

than 10 inches the horizon is gravelly loamy sand or gravelly loamy coarse sand. Structure is weak, fine, granular or single grained. Consistence is very friable or loose.

The C horizon has hue of 7.5YR through 2.5Y, value of

from conglomerate, sandstone, shale, and basalt. Holyoke soils are on hilltops, ridges, and knolls of bedrock-controlled glacial till uplands. Slopes range from 3 to 40 percent.

very gravelly sand or gravelly loamy fine sand.

### Hollis series

The Hollis series consists of loamy, mixed, mesic Lithic Dystrochrepts. These soils are somewhat excessively drained. Hollis soils formed in a mantle of glacial till derived mainly from granite, gneiss, and schist. The soils are on hilltops, ridges, and knolls of bedrock-controlled glacial till plains. Slopes range from 3 to 45 percent.

well drained Cheshire, Wethersfield, and Yalesville soils; moderately well drained Ludlow soils; and poorly drained Wilbraham soils.

Typical pedon of Holyoke silt loam, in an area of Holyoke-Cheshire very stony silt loams, 15 to 35 percent slopes, in the town of Middlefield, 50 feet north of Kickapoo Road, and 300 feet east of the cliff:

O2—1 inch to 0, fresh and partially decomposed leaf litter.  
A1—0 to 4 inches. very dark gray (10YR 3/1) silt loam;

A1—0 to 7 inches, very dark brown (10YR 2/2) fine sandy loam; weak medium granular structure; friable; common fine and coarse roots; 15 percent coarse fragments; very strongly acid; gradual wavy boundary.

B21—7 to 18 inches, grayish brown (10YR 5/2) fine sandy loam; common fine distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; common fine and coarse roots; 15 percent coarse fragments; strongly acid; clear wavy

soils. Ludlow soils are associated on the landscape with well drained Cheshire and Yalesville soils.

Typical pedon of Ludlow silt loam, 3 to 8 percent slopes, in the town of Middletown, 0.85 mile southwest of Long Hill School on Connecticut Route 17, and 200 feet south of a barn on the south side of an east-west road:

Ap—0 to 8 inches, dark brown (7.5YR 3/2) silt loam; weak coarse granular structure; friable; many fine

of the Connecticut River, and 2,300 feet south of the  
Hartford County Line:

B22—13 to 18 inches, dark yellowish brown (10YR 4/6)  
sandy loam; weak medium granular structure; friable;



structure; friable; few fine roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

B22—20 to 25 inches, dark yellowish brown (10YR 4/6)

strong brown (7.5YR 5/6) mottles; weak medium subangular blocky structure; medium acid; clear wavy boundary.

ture; friable; few fine roots; 10 percent rock fragments; strongly acid; clear wavy boundary.

B23—25 to 30 inches, yellowish brown (10YR 5/4) sandy loam; massive; friable; 15 percent rock fragments; strongly acid; clear smooth boundary.

Cx—30 to 60 inches, dark yellowish brown (10YR 4/4) sandy loam; massive; firm; 15 percent rock fragments; strongly acid.

The solum is 20 to 36 inches thick. Rock fragments

loam; few medium faint yellowish red (5YR 5/6) and few common distinct pale brown (10YR 6/3) mottles; weak medium subangular blocky structure; friable; few fine roots; medium acid; abrupt wavy boundary.

IIC—25 to 60 inches, brown (10YR 5/3) gravelly sand; few fine faint yellowish red (5YR 5/6) mottles; single grained; loose; 30 percent coarse fragments; medium acid.

The solum is 18 to 34 inches thick and the depth to

5 percent rock fragments; many fine roots; medium acid; abrupt smooth boundary.

Ap—0 to 8 inches, dark brown (7.5YR 3/2) loamy sand; weak medium granular structure; very friable; many

sandy loam; weak medium subangular blocky structure; friable; 5 percent rock fragments; common fine roots; medium acid; gradual wavy boundary.

B22—22 to 29 inches, yellowish brown (10YR 5/6) fine sandy loam; weak medium subangular blocky structure; friable; 10 percent rock fragments; few fine roots; medium acid; gradual wavy boundary.

B23—29 to 32 inches, yellowish brown (10YR 5/6) fine sandy loam; weak coarse subangular blocky structure; friable; 10 percent rock fragments; few fine roots; medium acid; clear wavy boundary.

B21—8 to 15 inches, yellowish red (5YR 4/8) loamy sand; weak medium granular structure; very friable; many roots; 5 percent coarse fragments; strongly acid; gradual wavy boundary.

B22—15 to 28 inches, yellowish red (5YR 5/6) loamy sand; single grained; loose; many roots; 5 percent coarse fragments; strongly acid; gradual wavy boundary.

C—28 to 60 inches, reddish brown (5YR 5/4) sand; single grained; loose; stratified; few roots; 10 percent coarse fragments; strongly acid.

B22—22 to 32 inches, dark brown (10YR 4/3) fine sandy loam; common medium distinct grayish brown (10YR 5/2) and yellowish brown (10YR 5/6) mottles; moderate fine granular structure; friable; few fine roots; very strongly acid; gradual wavy boundary.

C1—32 to 50 inches, dark grayish brown (2.5Y 4/2) loamy fine sand; common medium distinct gray (10YR 5/1) and yellowish brown (10YR 5/6) mottles; massive; friable; few fine roots; very strongly acid; gradual wavy boundary.

C2—50 to 60 inches, brown (10YR 4/3) loamy fine sand; common medium distinct gray (10YR 5/1) and yellowish brown (10YR 5/6) mottles; massive; friable; this

(10YR 6/4) mottles; weak medium subangular blocky structure; friable; strongly acid; clear wavy boundary.

B22—16 to 19 inches, light brownish gray (10YR 6/2) silt loam; many medium prominent yellowish brown (10YR 5/8) and brown (7.5YR 5/4) mottles; weak medium subangular blocky structure; friable; strongly acid; clear wavy boundary.

B23—19 to 24 inches, brown (7.5YR 4/4) very fine sandy loam; many medium prominent strong brown (7.5YR 5/6) mottles; massive; friable; 10 percent coarse fragments; strongly acid; clear wavy boundary.

IIC—24 to 60 inches, brown (7.5YR 4/4) sand; few fine

sand lenses; very strongly acid.

The solum is 20 to 40 inches thick. Unlimed areas of the soil are very strongly acid to slightly acid.

The A horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 through 4. This horizon has weak or

percent coarse fragments; medium acid.

The solum is 18 to 36 inches thick. Coarse fragments make up as much as 10 percent of the solum and 10 to 50 percent of the substratum. Unlimed areas of the soil are very strongly acid through medium acid above a depth of 40 inches and strongly acid through slightly acid below



common fine and medium roots; 10 percent rock fragments; slightly acid; clear wavy boundary.

B21—7 to 15 inches, grayish brown (2.5Y 5/2) fine sandy loam; few fine distinct yellowish brown (10YR 5/6) mottles; weak medium subangular blocky structure; friable; common fine roots; 10 percent rock fragments; medium acid; clear wavy boundary.

B22—15 to 20 inches, grayish brown (2.5Y 5/2) sandy loam; common medium distinct yellowish brown (10YR 5/6) and light brownish gray (10YR 6/2) mottles; weak medium subangular blocky structure; friable; few fine roots; 5 percent rock fragments; strong

A1—0 to 4 inches, very dark brown (10YR 2/2) fine sandy loam; weak medium granular structure; friable; many fine roots; strongly acid; clear smooth boundary.

B21—4 to 19 inches, dark grayish brown (2.5Y 4/2) fine sandy loam; few fine distinct dark brown (7.5YR 4/4) mottles; weak medium subangular blocky structure; friable; few fine roots; medium acid; abrupt smooth boundary.

B22—19 to 31 inches, very dark gray (5Y 3/1) sandy loam; common medium distinct weak red (2.5YR 4/2) mottles; weak medium subangular blocky structure; friable; few fine roots; medium acid; abrupt smooth boundary.

Ap—0 to 11 inches, dark brown (7.5YR 4/2) silt loam; weak fine granular structure; many fine roots; medium acid; abrupt smooth boundary.

B21—11 to 21 inches, reddish brown (5YR 4/3) silt loam; common medium prominent yellowish red (5YR 5/6) and grayish brown (10YR 5/2) mottles; weak medium subangular blocky structure; friable; medium acid; clear wavy boundary.

B22—21 to 28 inches, reddish brown (5YR 4/3) silt loam; common medium distinct yellowish red (5YR 4/6) and dark red (2.5YR 3/6) mottles; weak medium subangular blocky structure; friable; medium acid; clear wavy boundary.

C—28 to 60 inches, reddish brown (5YR 4/3) silt loam; common medium distinct yellowish red (5YR 4/6) mottles; massive; friable; strongly acid.

The solum is 24 to 40 inches thick. Depth to stratified sand, each gravel is more than 40 inches. Coarse frag-

C2g—18 to 60 inches, very dark gray (5Y 3/1) silt loam; massive; friable; neutral.

Coarse fragments make up as much as 5 percent of the soil above a depth of 40 inches and as much as 50 percent below a depth of 40 inches. This soil is strongly acid to neutral above a depth of 30 inches and medium acid to neutral below a depth of 30 inches.

The A horizon has hue of 10YR or 2.5Y, value of 2 or 3, and chroma of 1 through 3. Structure is weak, granular, or the horizon is massive. Consistence is friable or very friable.

The C horizon has hue of 10YR through 5Y, value of 3 through 6, and chroma of 0 or 1. This horizon is silt loam or very fine sandy loam with lenses of loamy fine sand and very fine sand in places. Consistence is friable or very friable.

The O horizon, where present, is as much as 16 inches thick and has hue of 10YR, value of 2 or 3, and chroma of 1 or 2. This horizon is sapric material.

The A horizon has hue of 7.5YR through 2.5Y, value of 2 or 3, and chroma of 0 or 1. This horizon is loamy fine sand, sandy loam, fine sandy loam, or their mucky analogs.

The C horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 0 through 2. Mottles are faint to prominent. This horizon is sand, loamy sand, or their gravelly analogs.

The solum is 18 to 36 inches thick, and the depth to stratified sand and gravel is also 18 to 36 inches. Coarse fragments make up as much as 30 percent of the solum and 20 to 50 percent of the IIC horizon. Unlimed areas of the soil are extremely acid through medium acid.

The A horizon has hue of 7.5YR or 10YR, value of 3 or 4, and chroma of 2 through 4. It is sandy loam or fine sandy loam.

The B horizon has hue of 7.5YR or 10YR, value of 3 through 5, and chroma of 3 through 6. The upper part of the B horizon is fine sandy loam or sandy loam and the

### Sudbury series

The Sudbury series consists of sandy, mixed, mesic

has granular or subangular blocky structure, or it is single grained.

The IIC horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 3 through 6. The IIC horizon is

The A horizon has hue of 10YR or 2.5Y, value of 3 or 4, and chroma of 2 or 3. This horizon is loamy sand or loamy fine sand.

The C horizon has hue of 10YR or 2.5Y, value of 3 through 6, and chroma of 2 or 3. This horizon is loamy fine sand, loamy sand, sand, or their gravelly analogs.

### Udipsamments

Udipsamments in this survey area consist of moderately well drained to excessively drained soils in areas that have been disturbed by leveling and other construction activities to the extent that a soil profile is not recognizable. The soils formed in sandy outwash. They are adjacent to beaches and sand dunes on the shore of Long Island Sound. The areas are subject to tidal flooding during storms. Slopes range from 0 to 8 percent.

Udipsamments are associated on the landscape with excessively drained Hinckley soils, somewhat excessively drained Merrimac soils, well drained Agawam soils, very poorly drained Westbrook soils, Beaches, and Urban land.

Coarse fragments make up as much as 25 percent of Udipsamments. The soils are sand or gravelly sand.

### Udorthents

Udorthents in this survey area consist of moderately well drained to excessively drained soils. They are in

Typical pedon of Walpole sandy loam, in the town of Killingworth, 330 feet north of Connecticut Route 80, and 1,800 feet west of Roast Meat Hill Road:

- A1—0 to 10 inches, black (10YR 2/1) sandy loam; moderate medium granular structure; very strongly acid; clear smooth boundary.
- B21—10 to 12 inches, brown (10YR 4/3) sandy loam; weak medium subangular blocky structure; friable; common dark brown (7.5YR 3/2) organic stains; strongly acid; abrupt wavy boundary.
- B22—12 to 23 inches, dark grayish brown (2.5Y 4/2) sandy loam; common medium prominent brown (7.5YR 4/4) mottles; weak medium subangular blocky structure; friable; 5 percent coarse fragments; medium acid; gradual wavy boundary.
- IIC—23 to 60 inches, grayish brown (2.5Y 5/2) sand; single grained; loose; thin lenses of light olive gray (5Y 6/2) sandy loam and fine sandy loam; medium acid.

The solum is 18 to 28 inches thick. Coarse fragments make up as much as 25 percent of the solum and 50 percent of the IIC horizon. Unlimed areas of the soil are very strongly acid through medium acid.

The A horizon has hue of 10YR, value of 2 or 3, and chroma of 1 or 2.

The B horizon has hue of 10YR through 5Y, value of 4 through 6, and chroma of 1 through 3. This horizon is

percent rubbed; dense mat of roots, stems, and leaves; massive; slightly sticky; many large and fine roots; sodium pyrophosphate extract color light gray (10YR 7/1); herbaceous fibers; thin lenses and coatings of silt; 45 percent organic matter; salt content 37,440 parts per million; strongly acid; clear wavy boundary.

Oe2—10 to 40 inches, very dark gray (10YR 3/1) mucky peat, dark gray (10YR 4/1) dry; 50 percent fiber, 25 percent rubbed; massive; slightly sticky; few large medium and fine roots; sodium pyrophosphate extract color light gray (10YR 7/1); herbaceous fibers; thin lenses and coatings of silt; 44 percent organic matter; salt content 22,100 parts per million; slightly acid; gradual wavy boundary.

Oe3—40 to 48 inches, dark olive gray (5Y 3/2) mucky peat, dark gray (10YR 4/1) dry; 35 percent fibers, 25 percent rubbed; massive; slightly sticky; sodium pyrophosphate extract color light gray (10YR 7/1); herbaceous fibers; 24 percent organic matter; salt content 23,400 parts per million; neutral; clear wavy boundary.

IIC1—48 to 62 inches, very dark gray (5Y 3/1) silt loam dark gray (10YR 4/1) dry; massive; slightly sticky; 12 percent organic matter; salt content 18,200 parts per million; slightly acid; diffuse wavy boundary.

IIC2—62 to 99 inches, dark gray (N/4) silt loam, dark gray (10YR 4/1) dry; massive; slightly sticky; 10 percent organic matter; few small shell fragments; salt content 20,100 parts per million; slightly acid.

The organic layers are 16 to 51 inches thick. The soil is strongly acid through neutral in its natural condition and extremely acid if drained. Total salt content ranges from 1,000 to 35,000 parts per million. Many pedons have thin layers of silt in the organic layers.

The surface layer has hue of 10YR through 5Y, value of 2 through 4, and chroma of 0 through 2. Organic matter content ranges from 20 to 70 percent.

The subsurface and bottom layers have hue of 10YR through 5Y, value of 2 through 5, and chroma of 0 through 3. Organic matter content ranges from 20 to 70 percent. Layers of fibric or sapric material as much as 6 inches thick are common in places.

The IIC horizon has hue of 10YR through 5GY, value of 2 through 5, and chroma of 0 through 2. It is silt loam, silt, or very fine sandy loam. The horizon is 0 to 5 percent shell fragments and herbaceous fibers.

## Wethersfield series

The Wethersfield series consists of coarse-loamy, mixed, mesic Typic Fragiöchrepts. These soils are well drained, and the surface ranges from nonstony to extremely stony. Wethersfield soils formed in compact glacial till derived from reddish sandstone, conglomerate, shale, and basalt. The soils are on drumlins, broad hill-tops, and side slopes of glacial till plains. Slopes range from 3 to 35 percent.

Wethersfield soils are in a drainage sequence with moderately well drained Ludlow soils and poorly drained Wilbraham soils. Wethersfield soils are associated with somewhat well drained Holyoke soils and well drained Cheshire and Yalesville soils. Wethersfield soils have a more compact and firmer substratum than Cheshire soils and are deeper to bedrock than Yalesville soils.

Typical pedon of Wethersfield loam, in an area of Wethersfield very stony loam, 3 to 8 percent slopes, in the town of Middlefield, about 50 feet south of Connecticut Route 66, and 500 feet west of Mt. Higby Reservoir:

O2—2 inches to 0, raw pine needles and partially decomposed and well decomposed forest litter.

A1—0 to 2 inches, dark brown (7.5YR 3/2) loam; moderate medium granular structure; friable; many fine and medium roots; 10 percent coarse fragments; strongly acid; clear wavy boundary.

B21—2 to 12 inches, reddish brown (5YR 4/4) loam; weak medium subangular blocky structure; friable; common fine and medium roots; 10 percent coarse fragments; strongly acid; clear wavy boundary.

B22—12 to 26 inches, dark reddish brown (5YR 3/3) loam; weak medium subangular blocky structure; friable; few medium roots; 15 percent coarse fragments; strongly acid; clear wavy boundary.

Cx—26 to 60 inches, reddish brown (2.5YR 4/4) gravelly loam; weak thick platy structure; very firm, brittle; few silt films and black coatings on some breakage faces; 20 percent coarse fragments; strongly acid.

The solum is 20 to 36 inches thick, and the depth to the fragipan is also 20 to 36 inches. Rock fragments make up 5 to 25 percent of the solum and 10 to 35 percent of the Cx horizon. Unlimed areas of the soil are very strongly acid to strongly acid in the solum and very strongly acid to medium acid in the Cx horizon.

The A horizon has hue of 5YR through 10YR, value of 2 through 4, and chroma of 1 through 4. This horizon is loam, silt loam, or fine sandy loam.

The B horizon has hue of 2.5YR or 5YR, value of 3 through 5, and chroma of 3 through 6. This horizon is silt loam, loam, or fine sandy loam. Structure is weak or moderate, medium subangular blocky. Some pedons have few faint mottles above the fragipan.

The Cx horizon has hue of 2.5YR or 5YR, value of 3 through 5, and chroma of 2 through 6. This horizon is silt loam, loam, fine sandy loam, or their gravelly analogs. Structure is weak, thick, platy, or the horizon is massive.

## Whitman series

The Whitman series consists of coarse-loamy, mixed, mesic, Typic Fragiäquepts. These soils are very poorly drained and extremely stony. They formed in compact glacial till derived from gneiss, schist, and granite. Whitman soils are in depressions and drainageways of glacial till uplands. Slopes range from 0 to 3 percent.

Whitman soils form a drainage sequence with well drained Paxton soils and poorly drained Ridgebury soils. Whitman soils are associated on the landscape with well drained Montauk soils and very poorly drained Adrian and Carlisle soils. Whitman soils do not have the organic layers of the Adrian and Carlisle soils.

Typical pedon of Whitman fine sandy loam, in an area of Leicester, Ridgebury, and Whitman extremely stony fine sandy loams, in the town of East Haddam, 1,000 feet southwest of Connecticut Route 82, 900 feet northwest of River Road, 200 feet northwest of a grove of hemlocks, and 200 feet north of a wire fence:

A1—0 to 5 inches, black (10YR 2/1) fine sandy loam; weak fine granular structure; friable; many fine roots; 10 percent coarse fragments; very strongly acid; clear smooth boundary.

B21g—5 to 8 inches, dark gray (10YR 4/1) fine sandy loam; few fine distinct reddish brown (5YR 4/3) mottles; weak medium subangular blocky structure; friable; many fine roots; 10 percent coarse fragments;

## Wilbraham series

The Wilbraham series consists of coarse-loamy, mixed, mesic Aquic Fragioglepts. These soils are poorly drained and nonstony to extremely stony. Wilbraham soils are derived mainly from reddish sandstone, shale, and conglomerate. The soils are in depressions and drainageways of glacial till uplands. Slopes range from 0 to 5 percent.

Wilbraham soils form a drainage sequence with well drained Wethersfield soils and moderately well drained Ludlow soils. Wilbraham soils are associated on the landscape with well drained Cheshire and Yalesville soils and somewhat excessively drained Holyoke soils.

Typical pedon of Wilbraham silt loam, in an area of Wilbraham extremely stony silt loam, in the town of Middlefield, 0.35 mile west of the northwest corner of Laurel Brook Reservoir:

A1—0 to 4 inches, very dark gray (10YR 3/1) silt loam; weak medium granular structure; very friable; many fine roots; 5 percent coarse fragments; strongly acid.

## Windsor series

ately well drained and nonstony to extremely stony.  
Weathered to silty, forming a compact, clay till derived



sandy loam, loam, sandy loam, or their gravelly analogues. Structure is weak, thick, or medium platy. Consistence is firm or very firm and brittle.

### **Yalesville series**

The Yalesville series consists of coarse-loamy, mixed, mesic Typic Dystrochrepts. These soils are well drained. They formed in glacial till derived mainly from sandstone, conglomerate, shale, and basalt. Yalesville soils are on bedrock-controlled glacial till plains. Slopes range from 3 to 15 percent.

Yalesville soils are associated on the landscape with somewhat excessively drained Holyoke soils, well drained Cheshire and Wethersfield soils, moderately well drained Ludlow soils, and poorly drained Wilbraham soils. Yalesville soils have bedrock nearer the surface than Cheshire and Wethersfield soils.

Typical pedon of Yalesville fine sandy loam, 3 to 8 percent slopes, in the town of Durham, 1,500 feet west-northwest of the intersection of Connecticut Route 17 and Little Lane, near power line pole 1975:

### **Classification of the soils**

The system of soil classification used by the National Cooperative Soil Survey has six categories (7). Beginning with the broadest, these categories are the order, suborder, great group, subgroup, family, and series. In this system the classification is based on the different soil properties that can be observed in the field or those that can be inferred either from other properties that are observable in the field or from the combined data of soil science and other disciplines. The properties selected for the higher categories are the result of soil genesis or of factors that affect soil genesis. In table 17, the soils of the survey area are classified according to the system. Categories of the system are discussed in the following paragraphs.

**ORDER.** Ten soil orders are recognized as classes in the system. The properties used to differentiate among orders are those that reflect the kind and degree of dominant soil-forming processes that have taken place. Each order is identified by a word ending in *sol*. An example is Entisol.

**SUBORDER.** Each order is divided into suborders



cracks. A family name consists of the name of a subgroup and a series of adjectives. The adjectives are the class names for the soil properties used as family differentiae. An example is fine-loamy, mixed, nonacid, mesic, Typic Haplaquents.

**SERIES.** The series consists of soils that formed in a particular kind of material and have horizons that, except

soil. The capacity, in inches, in a 40-inch profile or to a limiting layer is expressed as—

	<i>Inches</i>
Very low.....	0 to 2.4
Low.....	2.4 to 3.2
Moderate.....	3.2 to 5.2
High.....	More than 5.2

**Basal till.** Compact glacial till deposited beneath the ice

*Moderately wet when dry or moist, does not*      *Moderately well drained. Water is removed from the*

currence are estimated. Frequency is expressed as none, rare, occasional, and frequent. *None* means that flooding is not probable; *rare* that it is unlikely but possible under unusual weather conditions; *occasional* that it occurs on an average of once in 10 years; *frequent* that it occurs on an average of once in 5 years.

mified organic matter is mixed with the mineral material. Also, a plowed surface horizon most of which was originally part of a B horizon.

*A2 horizon*.—A mineral horizon, mainly a residual concentration of sand and silt high in content of ses-

aeration and impeded drainage. Descriptive terms are as follows: abundance—*few*, *common*, and *many*; size—*fine*, *medium*, and *coarse*; and contrast—*faint*, *distinct*, and *prominent*. The size measurements are of the diameter along the greatest dimension. *Fine* indicates less than 5 millimeters (about 0.2 inch); *medium*, from 5 to 15 millimeters (about 0.2 to 0.6 inch); and *coarse*, more than 15 millimeters (about 0.6 inch).

**Muck.** Dark colored, finely divided, well decomposed organic soil material mixed with mineral soil material. The content of organic matter is more than 20 percent.

**Outwash, glacial.** Stratified sand and gravel produced by glaciers and carried, sorted, and deposited by water that originated mainly from the melting of glacial ice. Glacial outwash is commonly in valleys on landforms known as valley trains, outwash terraces, eskers, kame terraces, kames, outwash fans, or deltas.

**Outwash plain.** A landform of mainly sandy or coarse textured material of glaciofluvial origin. An outwash plain is commonly smooth; where pitted, it is generally low in relief.

**Peat.** Unconsolidated material, largely undecomposed organic matter, that has accumulated under excess moisture.

**Pedon.** The smallest volume that can be called "a soil." A pedon is three dimensional and large enough to permit study of all horizons. Its area ranges from about 10 to 100 square feet (1 square meter to 10 square meters), depending on the variability of the soil.

**Percs slowly.** The slow movement of water through the soil adversely affecting the specified use.

**Permeability.** The quality that enables the soil to transmit water or air, measured as the number of inches per hour that water moves through the soil. Terms describing permeability are *very slow* (less than 0.06 inch), *slow* (0.06 to 0.20 inch), *moderately slow* (0.2 to 0.6 inch), *moderate* (0.6 to 2.0 inches), *moderately rapid* (2.0 to 6.0 inches), *rapid* (6.0 to 20 inches), and *very rapid* (more than 20 inches).

**Piping.** Moving water of subsurface tunnels or pipelike cavities in the soil.

**Plasticity index.** The numerical difference between the liquid limit and the plastic limit; the range of moisture content within which the soil remains plastic.

**Plastic limit.** The moisture content at which a soil changes from a semisolid to a plastic state.

**Reaction, soil.** The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is described as precisely neutral in reaction because it

is neither acid nor alkaline. The degree of acidity or alkalinity is expressed as—

	pH
Extremely acid.....	Below 4.5
Very strongly acid.....	4.5 to 5.0
Strongly acid.....	5.1 to 5.5
Medium acid.....	5.6 to 6.0
Slightly acid.....	6.1 to 6.5
Neutral.....	6.6 to 7.3
Mildly alkaline.....	7.4 to 7.8
Moderately alkaline.....	7.9 to 8.4
Strongly alkaline.....	8.5 to 9.0
Very strongly alkaline.....	9.1 and higher

**Rock fragments.** Rock or mineral fragments having a diameter of 2 millimeters or more; for example, pebbles, cobbles, stones, and boulders.

**Runoff.** The precipitation discharged in stream channels from a drainage area. The water that flows off the land surface without sinking in is called surface runoff; that which enters the ground before reaching surface streams is called ground-water runoff or seepage flow from ground water.

**Sapric soil material (muck).** The most highly decomposed of all organic soil material. Muck has the least amount of plant fiber, the highest bulk density, and the lowest water content at saturation of all organic soil material.

**Series, soil.** A group of soils, formed from a particular type of parent material, having horizons that, except for the texture of the A or surface horizon, are similar in all profile characteristics and in arrangement in the soil profile. Among these characteristics are color, texture, structure, reaction, consistence, and mineralogical and chemical composition.

**Silt.** As a soil separate, individual mineral particles that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). As a soil textural class, soil that is 80 percent or more silt and less than 12 percent clay.

**Site index.** A designation of the quality of a forest site based on the height of the dominant stand at an arbitrarily chosen age. For example, if the average height attained by dominant and codominant trees in a fully stocked stand at the age of 50 years is 75 feet, the site index is 75 feet.

**Soil.** A natural, three-dimensional body at the earth's surface that is capable of supporting plants and has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

**Solum.** The upper part of a soil profile, above the C horizon, in which the processes of soil formation are active. The solum in mature soil consists of the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and other plant and animal life characteristics of the soil are largely confined to the solum.

**Stones.** Rock fragments 10 to 24 inches (25 to 60 centimeters) in diameter.

**Stratified.** Arranged in strata, or layers. The term refers to geologic material. Layers in soils that result from the processes of soil formation are called horizons; those inherited from the parent material are called strata.

**Structure, soil.** The arrangement of primary soil particles into compound particles or aggregates that are separated from adjoining aggregates. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are either *single grained* (each grain by itself, as in dune sand) or *massive* (the particles adhering without any regular cleavage, as in many hardpans).

**Subsoil.** Technically, the B horizon; roughly, the part of the solum below plow depth.

**Substratum.** The part of the soil below the solum.

**Surface soil.** The soil ordinarily moved in tillage, or its

differ in ways too small to be of consequence in interpreting their use or management.

**Till plain.** An extensive flat to undulating area underlain by glacial till.

**Tilth, soil.** The condition of the soil, especially the soil structure, as related to the growth of plants. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

**Variant, soil.** A soil having properties sufficiently different from those of other known soils to justify a new series name, but the limited geographic soil area does not justify creation of a new series.

**Water table.** The upper limit of the soil or underlying rock material that is wholly saturated with water.

*Water table, apparent.* A thick zone of free water in the soil. An apparent water table is indicated by the level at which water stands in an uncased borehole after adequate time is allowed for adjustment in the surrounding soil.

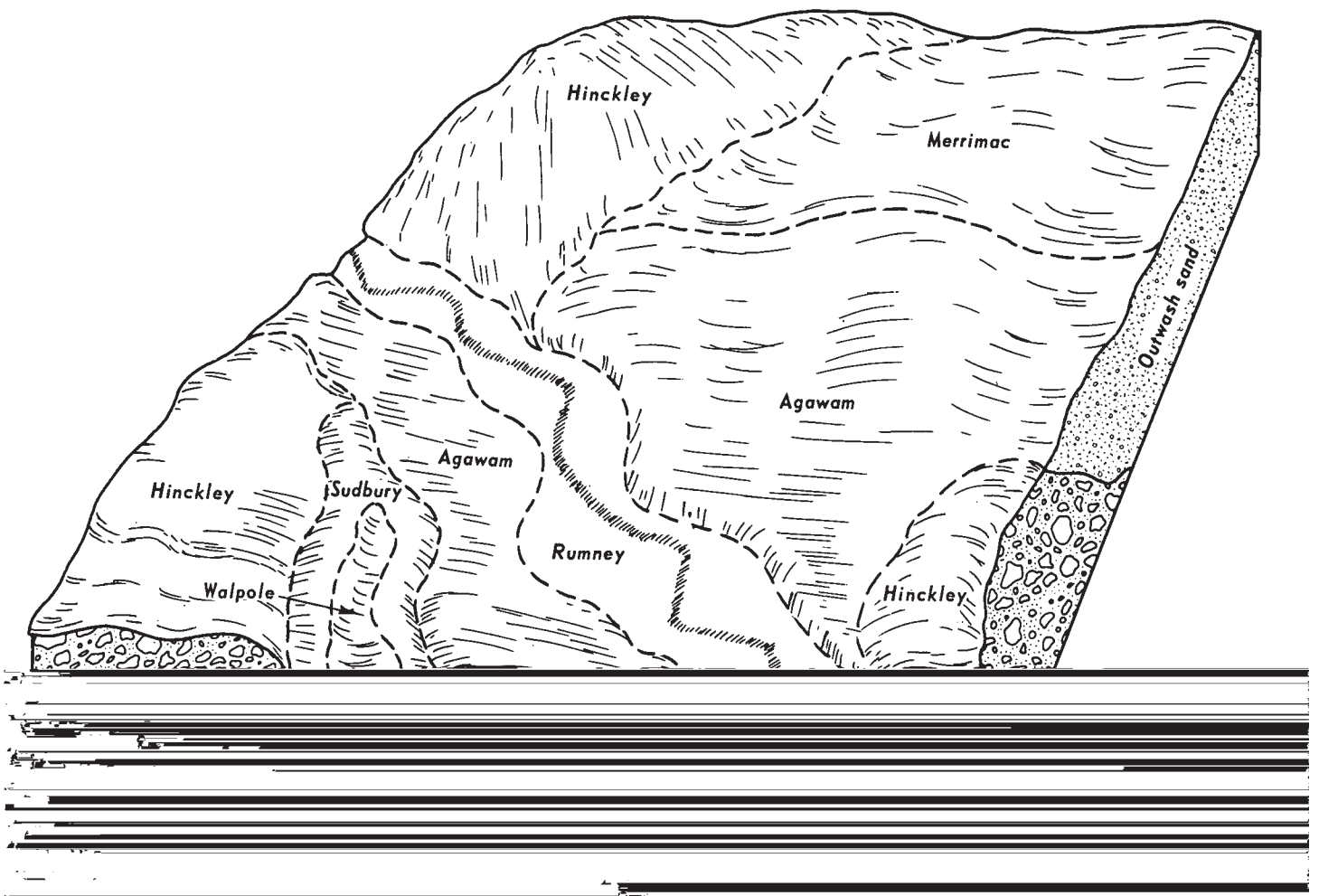
*Water table, static.* A water table under hydrostatic



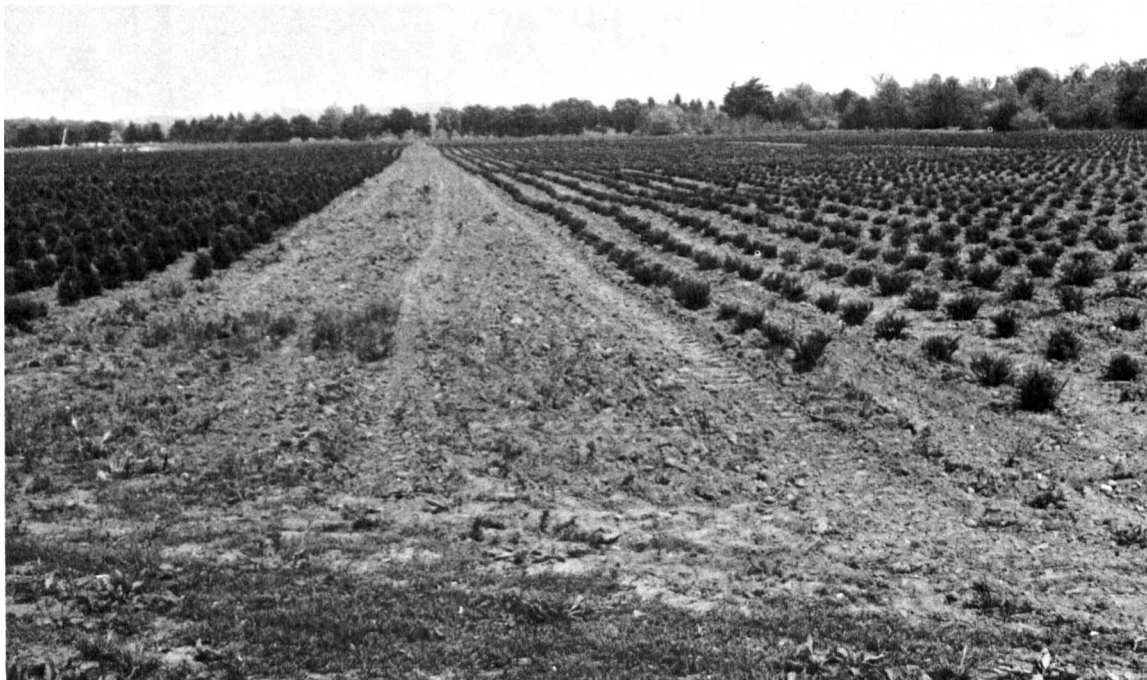
## Illustrations











*Figure 4.*—Nursery stock in an area of Hartford sandy loam, 0 to 3 percent slopes.



*Figure 5.*—An area of Leicester, Ridgebury, and Whitman extremely stony fine sandy loams.





*Figure 6.*—A flooded area of Saco silt loam.



*Figure 7.*—Tree nursery in an area of Yalesville fine sandy loam, 3 to 8 percent slopes.

## Tables

TABLE 1.--TEMPERATURE AND PRECIPITATION DATA

Month	Temperature <sup>1</sup>						Precipitation <sup>1</sup>				
	Average daily maximum	Average daily minimum	Average daily	2 years in 10 will have--		Average number of growing degree days <sup>2</sup>	Average	2 years in 10 will have--		Average number of days with 0.10 inch or more	Average snowfall
				Maximum temperature higher than--	Minimum temperature lower than--			Less than--	More than--		
	<u>OF</u>	<u>OF</u>	<u>OF</u>	<u>OF</u>	<u>OF</u>	<u>Units</u>	<u>In</u>	<u>In</u>	<u>In</u>		<u>In</u>
January----	35.2	19.9	27.6	57	-5	15	3.26	1.67	4.55	6	9.9
February----	37.6	21.7	29.7	57	-5	18	3.66	2.49	4.73	6	10.6
March-----	45.1	28.8	37.0	68	9	56	4.36	2.83	5.74	7	9.5
April-----	58.5	38.5	48.5	81	22	269	4.35	2.53	5.84	8	1.2
May-----	68.8	47.4	58.1	88	32	561	3.93	2.31	5.37	8	.0
June-----	78.1	57.1	67.6	94	40	828	3.62	1.76	5.14	7	.0
July-----	82.6	62.6	72.6	95	48	1,011	3.66	2.17	4.99	6	.0
August-----	80.2	61.2	70.7	92	44	952	4.02	2.09	5.60	6	.0
September--	72.8	54.0	63.4	90	32	702	4.29	2.39	5.84	6	.0
October----	62.9	44.4	53.7	81	25	425	3.82	1.61	5.60	5	.1
November---	51.1	35.2	43.2	68	16	129	4.74	3.07	6.24	8	1.5
December---	39.2	24.7	32.0	61	2	40	4.78	2.66	6.51	8	7.4
Year-----	59.3	41.3	50.3	96	-8	5,006	48.49	42.23	54.56	81	40.2

<sup>1</sup>Recorded in the period 1951-73 at Middletown, Conn.

<sup>2</sup>A growing degree day is a unit of heat available for plant growth. It can be calculated by adding the maximum and minimum daily temperatures, dividing the sum by 2, and subtracting the temperature below which growth is minimal for the principal crops in the area (40° F).

TABLE 2.--FREEZE DATES IN SPRING AND FALL

Probability	Temperature <sup>1</sup>		
	24°F or lower	28°F or lower	32°F or lower
Last freezing temperature in spring:			
1 year in 10 later than--	April 8	April 19	May 12
2 years in 10 later than--	April 4	April 15	May 5
5 years in 10 later than--	March 28	April 6	April 22
First freezing temperature in fall:			
1 year in 10 earlier than--	October 31	October 10	September 27
2 years in 10 earlier than--	November 6	October 16	October 3
5 years in 10 earlier than--	November 17	October 28	October 15

<sup>1</sup>Recorded in the period 1951-73 at Middletown, Conn.

TABLE 3.--GROWING SEASON LENGTH

Probability	Daily minimum temperature during growing season <sup>1</sup>		
	Higher than 24°F Days	Higher than 28°F Days	Higher than 32°F Days
9 years in 10	212	183	147
8 years in 10	219	190	156
5 years in 10	233	204	174
2 years in 10	247	218	192
1 year in 10	255	225	202

<sup>1</sup>Recorded in the period 1951-73  
at Middletown, Conn.



TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS

Aa	Adrian muck-----	3,280	1.4
AfA	Agawam fine sandy loam, 0 to 3 percent slopes-----	2,160	0.9
AfB	Agawam fine sandy loam, 3 to 8 percent slopes-----	3,820	1.6
Ba	Beaches-Udipsamments complex-----	310	0.1
BcA	Berlin silt loam, 0 to 5 percent slopes-----	250	0.1
BoA	Branford silt loam, 0 to 3 percent slopes-----	360	0.2
BoB	Branford silt loam, 3 to 8 percent slopes-----	1,460	0.6
BoC	Branford silt loam, 8 to 15 percent slopes-----	330	0.1
CbB	Canton and Charlton fine sandy loams, 3 to 8 percent slopes-----	2,115	0.9
CcB	Canton and Charlton very stony fine sandy loams, 3 to 8 percent slopes-----	6,455	2.7
CcC	Canton and Charlton very stony fine sandy loams, 8 to 15 percent slopes-----	5,100	2.1
CdC	Canton and Charlton extremely stony fine sandy loams, 3 to 15 percent slopes-----	6,540	2.8
CdD	Canton and Charlton extremely stony fine sandy loams, 15 to 35 percent slopes-----	3,670	1.5
Ce	Carlisle muck-----	2,460	1.0
Crc	Charlton-Hollis very stony fine sandy loams, 3 to 15 percent slopes-----	32,880	13.8
CsB	Cheshire silt loam, 3 to 8 percent slopes-----	520	0.2
CsC	Cheshire silt loam, 8 to 15 percent slopes-----	220	0.1
CyC	Cheshire-Holyoke very stony silt loams, 3 to 15 percent slopes-----	3,410	1.4
EfA	Ellington fine sandy loam, 0 to 5 percent slopes-----	1,120	0.5
HfA	Hartford sandy loam, 0 to 3 percent slopes-----	970	0.4
HfB	Hartford sandy loam, 3 to 8 percent slopes-----	1,250	0.5
HkC	Hinckley gravelly sandy loam, 3 to 15 percent slopes-----	3,320	1.4
HME	Hinckley and Manchester soils, 15 to 45 percent slopes-----	3,720	1.6
HpE	Hollis-Charlton extremely stony fine sandy loams, 15 to 40 percent slopes-----	21,930	9.2
HrC	Hollis-Rock outcrop complex, 3 to 15 percent slopes-----	2,620	1.1
HSE	Hollis-Rock outcrop complex, 15 to 40 percent slopes-----	7,060	3.0
HuD	Holyoke-Cheshire very stony silt loams, 15 to 35 percent slopes-----	2,980	1.3
HyC	Holyoke-Rock outcrop complex, 3 to 15 percent slopes-----	440	0.2
HZE	Holyoke-Rock outcrop complex, 15 to 40 percent slopes-----	1,140	0.5
LG	Leicester, Ridgebury, and Whitman extremely stony fine sandy loams-----	13,600	5.7
LpA	Ludlow silt loam, 0 to 3 percent slopes-----	490	0.2
LpB	Ludlow silt loam, 3 to 8 percent slopes-----	2,980	1.3
LuB	Ludlow very stony silt loam, 3 to 8 percent slopes-----	440	0.2
LvC	Ludlow extremely stony silt loam, 3 to 15 percent slopes-----	530	0.2
MgA	Manchester gravelly sandy loam, 0 to 3 percent slopes-----	460	0.2
MgC	Manchester gravelly sandy loam, 3 to 15 percent slopes-----	1,270	0.5
MyA	Merrimac sandy loam, 0 to 3 percent slopes-----	1,560	0.7
MyB	Merrimac sandy loam, 3 to 10 percent slopes-----	2,250	0.9
NnA	Ninigret fine sandy loam, 0 to 5 percent slopes-----	930	0.4
PbB	Paxton and Montauk fine sandy loams, 3 to 8 percent slopes-----	3,695	1.6
PbC	Paxton and Montauk fine sandy loams, 8 to 15 percent slopes-----	900	0.4
PbD	Paxton and Montauk fine sandy loams, 15 to 25 percent slopes-----	380	0.2
PdB	Paxton and Montauk very stony fine sandy loams, 3 to 8 percent slopes-----	9,605	4.0
PdC	Paxton and Montauk very stony fine sandy loams, 8 to 15 percent slopes-----	4,080	1.7
PeC	Paxton and Montauk extremely stony fine sandy loams, 3 to 15 percent slopes-----	2,980	1.3
PeD	Paxton and Montauk extremely stony fine sandy loams, 15 to 35 percent slopes-----	3,740	1.6
PnA	Penwood loamy sand, 0 to 3 percent slopes-----	350	0.1
PnB	Penwood loamy sand, 3 to 8 percent slopes-----	560	0.2
Pr	Pits, gravel-----	820	0.3
Ps	Podunk fine sandy loam-----	920	0.4
Rb	Raypol silt loam-----	1,390	0.6
Rp	Rock outcrop-Hollis complex-----	640	0.3
Ru	Rumnev fine sandy loam-----	1,990	0.8



TABLE 4.--ACREAGE AND PROPORTIONATE EXTENT OF THE SOILS--Continued

Map symbol	Soil name	Acres	Percent
WvB	Windsor loamy sand, 3 to 8 percent slopes-----	830	0.3
WxA	Woodbridge fine sandy loam, 0 to 3 percent slopes-----	855	0.4
WxB	Woodbridge fine sandy loam, 3 to 8 percent slopes-----	2,990	1.3
WyA	Woodbridge very stony fine sandy loam, 0 to 3 percent slopes-----	1,205	0.5
WyB	Woodbridge very stony fine sandy loam, 3 to 8 percent slopes-----	8,000	3.4
WzA	Woodbridge extremely stony fine sandy loam, 0 to 3 percent slopes-----	630	0.3
WzC	Woodbridge extremely stony fine sandy loam, 3 to 15 percent slopes-----	7,120	3.0
YaB	Yalesville fine sandy loam, 3 to 8 percent slopes-----	780	0.3
YaC	Yalesville fine sandy loam, 8 to 15 percent slopes-----	970	0.4
W	Water-----	2,280	1.0
	Total-----	237,440	100.0

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE

[All yields were estimated for a high level of management. Absence of yield figure indicates that the soil is not suited to the crop or the crop is not commonly grown on the soil]

Soil name and map symbol	Corn silage	Irish potatoes	Alfalfa hay	Grass- legume hay	Grass hay	Pasture
	<u>Ton</u>	<u>Cwt</u>	<u>Ton</u>	<u>Ton</u>	<u>Ton</u>	<u>AUM<sup>†</sup></u>
Aa. Adrian	---	---	---	---	---	---
AfA----- Agawam	24	330	5.0	4.0	3.5	8.5
AfB----- Agawam	24	330	5.0	4.0	3.5	8.5
Ba----- Beaches	---	---	---	---	---	---
BcA----- Berlin	22	---	3.5	3.5	4.5	6.5
BoA----- Branford	24	330	4.5	4.0	3.5	8.5
BoB----- Branford	24	330	4.5	4.0	3.5	8.5
BoC----- Branford	22	300	4.0	3.5	3.5	7.5
CbB----- Canton	24	315	4.5	4.5	4.0	8.5
CcB, CcC----- Canton	---	---	---	---	---	---
CdC, CdD----- Canton	---	---	---	---	---	---
Ce----- Carlisle	---	---	---	---	---	---
CrC----- Charlton	---	---	---	---	---	---
CsB----- Cheshire	24	300	4.5	4.0	4.0	8.5
CsC----- Cheshire	22	270	4.5	4.0	4.0	8.5
CyC----- Cheshire	---	---	---	---	---	---
EfA----- Ellington	24	330	4.5	4.0	3.5	8.5
HfA, HfB----- Hartford	18	270	4.0	3.0	2.5	7.5
HkC----- Hinckley	---	---	---	---	---	---
HME----- Hinckley	---	---	---	---	---	---
HpE----- Hollis	---	---	---	---	---	---

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn silage	Irish potatoes	Alfalfa hay	Grass- legume hay	Grass hay	Pasture
	<u>Ton</u>	<u>Cwt</u>	<u>Ton</u>	<u>Ton</u>	<u>Ton</u>	<u>AUM<sup>1</sup></u>
HrC----- Hollis	---	---	---	---	---	---
HSE----- Hollis	---	---	---	---	---	---
HuD----- Holyoke	---	---	---	---	---	---
HyC----- Holyoke	---	---	---	---	---	---
HZE----- Holyoke	---	---	---	---	---	---
LG----- Leicester	---	---	---	---	---	---
LpA, LpB----- Ludlow	24	300	4.0	4.0	3.5	7.5
LuB----- Ludlow	---	---	---	---	---	---
LvC----- Ludlow	---	---	---	---	---	---
MgA----- Manchester	12	---	2.5	2.0	2.0	5.0
MgC----- Manchester	---	---	---	---	---	---
MyA, MyB----- Merrimac	18	270	4.0	3.0	2.5	5.5
NnA----- Ninigret	22	330	4.0	3.5	4.0	7.5
PbB----- Paxton	23	315	4.5	4.0	4.0	8.5
PbC----- Paxton	21	285	4.5	4.0	4.0	8.5
PbD----- Paxton	19	---	4.0	3.5	3.5	7.5
PdB, PdC----- Paxton	---	---	---	---	---	---
PeC, PeD----- Paxton	---	---	---	---	---	---
PnA, PnB----- Penwood	14	---	3.0	2.5	2.0	5.5
Pr <sup>1</sup> Pits	---	---	---	---	---	---
Ps----- Podunk	24	300	4.0	4.5	4.5	8.5
Rb----- Raypol	20	---	---	3.5	3.5	6.0
Rp----- Rock outcrop	---	---	---	---	---	---

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn silage	Irish potatoes	Alfalfa hay	Grass- legume hay	Grass hay	Pasture
	<u>Ton</u>	<u>Cwt</u>	<u>Ton</u>	<u>Ton</u>	<u>Ton</u>	<u>AUM<sup>1</sup></u>
Ru----- Rumney	20	---	---	3.5	4.0	6.5
Rv----- Rumney Variant	24	---	---	3.5	3.5	7.0
Sb----- Saco	---	---	---	---	---	---
Sc----- Scarboro	---	---	---	---	---	---
SgA----- Sudbury	18	270	3.5	4.0	4.0	7.0
St----- Suncook	12	240	2.5	2.0	2.0	5.0
UD----- Udorthents	---	---	---	---	---	---
Ur <sup>2</sup> ----- Urban land	---	---	---	---	---	---
Wd----- Walpole	18	---	---	3.0	3.0	5.5
We, Wh----- Westbrook	---	---	---	---	---	---
WkB----- Wethersfield	22	300	4.5	4.0	4.0	8.5
WkC----- Wethersfield	20	270	4.0	3.5	3.5	7.5
WkD----- Wethersfield	18	---	3.5	3.5	3.5	7.0
WmB, WmC----- Wethersfield	---	---	---	---	---	---
WnC----- Wethersfield	---	---	---	---	---	---
Wr----- Wilbraham	16	---	---	3.5	4.0	6.5
Wt----- Wilbraham	---	---	---	---	---	---
WvA, WvB----- Windsor	14	---	3.0	2.5	2.0	5.5
WxA----- Woodbridge	24	270	4.0	4.0	4.0	8.0
WxB----- Woodbridge	24	270	4.0	4.0	4.0	8.0
WyA----- Woodbridge	---	---	---	---	---	---
WyB----- Woodbridge	---	---	---	---	---	---
WzA, WzC----- Woodbridge	---	---	---	---	---	---

See footnotes at end of table.

TABLE 5.--YIELDS PER ACRE OF CROPS AND PASTURE--Continued

Soil name and map symbol	Corn silage	Irish potatoes	Alfalfa hay	Grass- legume hay	Grass hay	Pasture
	<u>Ton</u>	<u>Cwt</u>	<u>Ton</u>	<u>Ton</u>	<u>Ton</u>	<u>AUM<sup>1</sup></u>
YaB----- Yalesville	19	---	4.0	4.0	3.5	7.5
YaC----- Yalesville	18	---	4.0	4.0	3.5	7.5

<sup>1</sup>Animal-unit-month: The amount of forage or feed required to feed one animal unit (one cow, one horse, one mule, five sheep, or five goats) for a period of 30 days.

<sup>2</sup>See description of the map unit for composition and behavior characteristics of the map unit.

TABLE 6.--CAPABILITY CLASSES AND SUBCLASSES

[Miscellaneous areas excluded. Absence of an entry means no acreage]

Class	Total acreage	Major management concerns (Subclass)		
		Erosion (e)	Wetness (w)	Soil problem (s)
		<u>Acres</u>	<u>Acres</u>	<u>Acres</u>
I	2,520	---	---	---
II	39,695	21,640	12,025	6,030
III	15,410	5,320	6,890	3,200
IV	7,240	2,650	---	4,590
V	2,305	---	1,100	1,205
VI	85,220	---	7,410	77,810
VII	74,680	---	---	74,680
VIII	3,290	---	3,290	---

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY

[Only the soils suitable for production of commercial trees are listed. Absence of an entry indicates that information was not available]

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Common trees	Site index	
Aa----- Adrian	4w	Slight	Severe	Severe	Severe	Red maple----- Silver maple----- White ash-----	46 --- ---	
AfA, AfB----- Agawam	4o	Slight	Slight	Slight	Slight	Eastern white pine-- Northern red oak---- Sugar maple-----	70 65 ---	Eastern white pine, white spruce, Norway spruce.
BcA----- Berlin	4o	Slight	Slight	Slight	Slight	Eastern white pine-- Northern red oak----	65 60	Eastern white pine, white spruce.
BoA, BoB----- Branford	3o	Slight	Slight	Slight	Slight	Eastern white pine-- Northern red oak----	75 70	Eastern white pine.
BoC----- Branford	3r	Moderate	Slight	Slight	Slight	Eastern white pine-- Northern red oak----	75 70	Eastern white pine.
CbB <sup>1</sup> , CcB <sup>1</sup> , CcC <sup>1</sup> : Canton-----	5o	Slight	Slight	Slight	Slight	Eastern white pine-- Northern red oak----	58 52	Eastern white pine, white spruce.
Charlton-----	4o	Slight	Slight	Slight	Slight	Northern red oak---- Eastern white pine-- Shagbark hickory----	65 65 ---	Eastern white pine, white spruce, eastern hemlock, European larch.
CdC <sup>1</sup> , CdD <sup>1</sup> : Canton-----	5x	Slight	Moderate	Slight	Slight	Eastern white pine-- Northern red oak----	58 52	Eastern white pine, white spruce.
Charlton-----	4x	Slight	Moderate	Slight	Slight	Northern red oak---- Eastern white pine-- Shagbark hickory----	65 65 55	Eastern white pine, white spruce, eastern hemlock, European larch.
Ce----- Carlisle	4w	Slight	Severe	Severe	Severe	Red maple----- White ash----- Swamp white oak----	46 --- ---	Northern white-cedar, Austrian pine, eastern white pine.
CrC <sup>1</sup> : Charlton-----	4o	Slight	Slight	Slight	Slight	Northern red oak---- Eastern white pine-- Shagbark hickory----	65 65 55	Eastern white pine, white spruce, eastern hemlock, European larch.
Hollis-----	5d	Slight	Slight	Severe	Moderate	Northern red oak---- Eastern white pine-- Sugar maple----- White spruce-----	47 55 56 60	Eastern white pine.
CsB, CsC----- Cheshire	4o	Slight	Slight	Slight	Slight	Northern red oak---- Eastern white pine--	60 65 ---	Eastern white pine, white spruce, eastern hemlock.

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Common trees	Site index	
CyC1: Cheshire-----	4o	Slight	Slight	Slight	Slight	Northern red oak---- Eastern white pine--	60 65	Eastern white pine, white spruce, eastern hemlock.
Holyoke-----	5d	Slight	Slight	Severe	Moderate	Northern red oak---- Eastern white pine-- White ash-----	47 55 ---	Eastern white pine.
EfA----- Ellington	3o	Slight	Slight	Slight	Slight	Eastern white pine-- Northern red oak----	75 70	Eastern white pine.
HfA, HfB-----	4s	Slight	Slight	Moderate	Slight	Eastern white pine--	65	Eastern white pine.
Hartford						Northern red oak----	59	white spruce.
HkC----- Hinckley	5s	Slight	Slight	Severe	Slight	Northern red oak---- Eastern white pine-- Sugar maple-----	49 60 57	Eastern white pine, European larch.
HME1: Hinckley-----	5s	Slight	Moderate	Severe	Slight	Northern red oak---- Eastern white pine-- Sugar maple-----	49 60 57	Eastern white pine, European larch.
Manchester-----	5s	Slight	Moderate	Severe	Slight	Northern red oak---- Eastern white pine--	50 55	Eastern white pine.
HpE1: Hollis-----	5d	Slight	Moderate	Severe	Moderate	Northern red oak---- Eastern white pine-- Sugar maple----- White spruce-----	47 55 56 60	Eastern white pine.
Charlton-----	4x	Slight	Moderate	Slight	Slight	Northern red oak---- Eastern white pine, Shagbark hickory----	65 65 55	Eastern white pine, white spruce, eastern hemlock, European larch.
HrC1: Hollis-----	5d	Slight	Slight	Severe	Moderate	Northern red oak---- Eastern white pine-- Sugar maple----- White spruce-----	47 55 56 60	Eastern white pine.
Rock outcrop. HSE1: Hollis-----	5d	Slight	Moderate	Severe	Moderate	Northern red oak---- Eastern white pine-- Sugar maple----- White spruce-----	47 55 56 60	Eastern white pine.
Rock outcrop. HuD1: Holyoke-----	5d	Moderate	Moderate	Severe	Moderate	Northern red oak---- Eastern white pine-- White ash-----	47 55 ---	Eastern white pine.



TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

	Management concerns	Potential productivity
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TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Common trees	Site index	
PbD1: Montauk-----	3r	Slight	Moderate	Slight	Slight	Sugar maple----- Northern red oak---- Eastern white pine--	65 70 75	White spruce, European larch, eastern white pine.
PdB1, PdC1: Paxton-----	3o	Slight	Slight	Slight	Slight	Northern red oak---- Eastern white pine-- Sugar maple-----	65 66 75	Eastern white pine, white spruce, European larch.
Montauk-----	3o	Slight	Slight	Slight	Slight	Sugar maple----- Northern red oak---- Eastern white pine--	65 70 75	White spruce, eastern white pine, European larch.
PeC1: Paxton-----	3x	Slight	Moderate	Slight	Slight	Northern red oak---- Eastern white pine-- Sugar maple-----	65 66 75	Eastern white pine, white spruce, European larch.
Montauk-----	3x	Slight	Moderate	Slight	Slight	Sugar maple----- Northern red oak---- Eastern white pine--	65 70 75	White spruce, eastern white pine, European larch.
PdE1: Paxton-----	3x	Slight	Moderate	Slight	Slight	Northern red oak---- Eastern white pine-- Sugar maple-----	65 66 75	Eastern white pine, white spruce, European larch.
Montauk-----	3x	Slight	Moderate	Slight	Slight	Sugar maple----- Northern red oak---- Eastern white pine--	65 70 75	White spruce, eastern white pine, European larch.
PnA, PnB Penwood	5s	Slight	Slight	Severe	Slight	Eastern white pine-- Northern red oak---- Pitch pine-----	55 50 50	Eastern white pine.
Ps----- Podunk	3o	Slight	Slight	Slight	Slight	Eastern white pine--	75	Eastern white pine, white spruce.
Rb----- Raypol	4w	Slight	Severe	Severe	Severe	Eastern white pine-- Red maple-----	68 75	Eastern white pine, eastern hemlock, white spruce.
Rp1: Rock outcrop. Hollis-----	5d	Slight	Moderate	Severe	Moderate	Northern red oak---- Eastern white pine-- Sugar maple----- White spruce-----	47 55 56 60	Eastern white pine.

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Common trees	Site index	
Ru----- Rumney	4w	Slight	Severe	Severe	Severe	Eastern white pine-- Red maple-----	59 65	Eastern white pine, white spruce.
Rv----- Rumney Variant	4w	Slight	Severe	Severe	Severe	Eastern white pine-- Red maple-----	65 75	Eastern white pine, white spruce,
Sc----- Scarboro	5w	Slight	Severe	Severe	Severe	Eastern white pine-- Red maple-----	55 55	Northern white-cedar.
SgA----- Sudbury	4o	Slight	Slight	Slight	Slight	Eastern white pine-- Northern red oak----	60 45	Eastern white pine, European larch, white spruce.
St----- Suncook	5s	Slight	Slight	Severe	Slight	Eastern white pine-- Black oak----- Northern red oak---- Red maple-----	55 50 50 50	Eastern white pine.
Wd----- Walpole	4w	Slight	Severe	Severe	Severe	Eastern white pine-- Red maple-----	68 75	Eastern white pine, white spruce, northern white-cedar.
WkB, WkC----- Wethersfield	3o	Slight	Slight	Slight	Slight	Northern red oak---- Eastern white pine-- Sugar maple----- Yellow-poplar-----	74 75 63 87	Eastern white pine.
WkD----- Wethersfield	3r	Slight	Moderate	Slight	Slight	Northern red oak---- Eastern white pine-- Sugar maple----- Yellow-poplar-----	74 75 63 87	Eastern white pine.
WmB, WmC----- Wethersfield	3o	Slight	Slight	Slight	Slight	Northern red oak---- Eastern white pine-- Sugar maple----- Yellow-poplar-----	74 75 63 87	Eastern white pine.
WnC----- Wethersfield	3x	Slight	Moderate	Slight	Slight	Northern red oak---- Eastern white pine-- Sugar maple----- Yellow poplar-----	74 75 63 87	Eastern white pine.
Wr----- Wilbraham	4w	Slight	Severe	Severe	Severe	Northern red oak---- Eastern white pine-- Sugar maple----- Red maple-----	63 65 55 70	Eastern white pine, white spruce.
Wt----- Wilbraham	4x	Slight	Severe	Severe	Severe	Northern red oak---- Eastern white pine-- Sugar maple----- Red maple-----	63 65 55 70	Eastern white pine, white spruce.
WvA, WvB----- Windsor	5s	Slight	Slight	Severe	Slight	Eastern white pine-- Northern red oak---- Sugar maple-----	57 52 55	Eastern white pine.
WxA, WxB----- Woodbridge	3o	Slight	Slight	Slight	Slight	Eastern white pine-- Northern red oak---- Sugar maple-----	67 72 65	Eastern white pine, European larch.

See footnote at end of table.

TABLE 7.--WOODLAND MANAGEMENT AND PRODUCTIVITY--Continued

Soil name and map symbol	Ordination symbol	Management concerns				Potential productivity		Trees to plant
		Erosion hazard	Equipment limitation	Seedling mortality	Wind-throw hazard	Common trees	Site index	
WyA, WyB----- Woodbridge	3o	Slight	Slight	Slight	Slight	Eastern white pine-- Northern red oak---- Sugar maple-----	67 72 65	Eastern white pine, European larch.
WzA, WzC----- Woodbridge	3x	Moderate	Moderate	Slight	Slight	Eastern white pine-- Northern red oak---- Sugar maple-----	67 72 65	Eastern white pine, European larch.
YaB, YaC----- Yalesville	4o	Slight	Slight	Slight	Moderate	Northern red oak---- Eastern white pine-- Sugar maple-----	60 65 ---	Eastern white pine.

<sup>1</sup> See description of the map unit for composition and behavior characteristics of the entire map unit.

TABLE 8.--BUILDING SITE DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
Aa----- Adrian	Severe: wetness, cutbanks cave, floods.	Severe: wetness, floods, low strength.	Severe: wetness, floods, low strength.	Severe: wetness, floods, low strength.	Severe: wetness, floods, low strength.	Severe: excess humus, floods, wetness.
AfA----- Agawam	Slight-----	Slight-----	Slight-----	Slight-----	Slight-----	Slight.
AfB----- Agawam	Slight-----	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
Ba <sup>1</sup> : Beaches.  Udipsamments.						
BcA----- Berlin	Severe: too clayey, wetness.	Severe: frost action.	Severe: wetness.	Severe: frost action.	Severe: frost action, low strength.	Slight.
BoA----- Branford	Severe: small stones, cutbanks cave.	Moderate: frost action.	Slight-----	Moderate: frost action.	Moderate: frost action.	Slight.
BoB----- Branford	Severe: small stones, cutbanks cave.	Moderate: frost action.	Slight-----	Moderate: slope, frost action.	Moderate: frost action.	Slight.
BoC----- Branford	Severe: small stones, cutbanks cave.	Moderate: slope, frost action.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.
CbB <sup>1</sup> : Canton-----	Severe: cutbanks cave.	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
Charlton-----	Slight-----	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
CcB <sup>1</sup> : Canton-----	Severe: cutbanks cave.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Slight-----	Moderate: large stones.
Charlton-----	Moderate: large stones.	Moderate: large stones.	Moderate: large stones.	Moderate: slope, large stones.	Slight-----	Moderate: large stones.
CcC <sup>1</sup> : Canton-----	Severe: cutbanks cave.	Moderate: slope, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.
Charlton-----	Moderate: slope, large stones.	Moderate: slope, large stones.	Moderate: large stones, slope.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.
CdC <sup>1</sup> : Canton-----	Severe: cutbanks cave, large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Moderate: large stones.	Severe: large stones.
Charlton-----	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Moderate: large stones.	Severe: large stones.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
CdD <sup>1</sup> : Canton-----	Severe: slope, cutbanks cave, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.
Charlton-----	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.
Ce----- Carlisle	Severe: floods, wetness, excess humus.	Severe: wetness, low strength, floods.	Severe: wetness, low strength, floods.	Severe: wetness, low strength, floods.	Severe: low strength, wetness, floods.	Severe: excess humus, wetness, floods.
CrC <sup>1</sup> : Charlton-----	Moderate: slope, large stones.	Moderate: slope, large stones.	Moderate: large stones, slope.	Severe: slope.	Moderate: slope.	Moderate: slope, large stones.
Hollis-----	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: depth to rock.
CsB----- Cheshire	Slight-----	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
CsC----- Cheshire	Moderate: slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Moderate: slope.
CyC <sup>1</sup> : Cheshire-----	Moderate: large stones, slope.	Moderate: large stones, slope.	Moderate: large stones, slope.	Severe: slope.	Moderate: slope.	Moderate: large stones, slope.
Holyoke-----	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: depth to rock.
EfA----- Ellington	Severe: wetness, small stones, cutbanks cave.	Severe: frost action.	Severe: wetness.	Severe: frost action.	Severe: frost action.	Slight.
HfA----- Hartford	Severe: cutbanks cave, small stones.	Slight-----	Slight-----	Slight-----	Slight-----	Moderate: droughty.
HfB----- Hartford	Severe: cutbanks cave, small stones.	Slight-----	Slight-----	Moderate: slope.	Slight-----	Moderate: droughty.
HkC----- Hinckley	Severe: small stones, cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: small stones, droughty.
HME <sup>1</sup> : Hinckley-----	Severe: slope, small stones, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, small stones, droughty.
Manchester-----	Severe: slope, small stones, cutbanks cave.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope, small stones, droughty.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
HpE <sup>1</sup> : Hollis-----	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock.	Severe: slope, depth to rock, large stones.
Charlton-----	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.
HrC <sup>1</sup> : Hollis-----	Severe: depth to rock, large stones.	Severe: depth to rock, large stones.	Severe: depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: depth to rock.	Severe: depth to rock, large stones.
Rock outcrop.						
HSE <sup>1</sup> : Hollis-----	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock.	Severe: slope, depth to rock, large stones.
Rock outcrop.						
HuD <sup>1</sup> : Holyoke-----	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.
Cheshire-----	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
HyC <sup>1</sup> : Holyoke-----	Severe: depth to rock.	Severe: depth to rock.	Severe: depth to rock.	Severe: slope, depth to rock.	Severe: depth to rock.	Severe: depth to rock.
Rock outcrop.						
HZE <sup>1</sup> : Holyoke-----	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.	Severe: slope, depth to rock.
Rock outcrop.						
LG <sup>1</sup> : Leicester-----	Severe: large stones, wetness.	Severe: large stones, wetness, frost action.	Severe: large stones, wetness.	Severe: large stones, wetness, frost action.	Severe: wetness, frost action.	Severe: large stones, wetness.
Ridgebury-----	Severe: large stones, wetness.	Severe: large stones, wetness, frost action.	Severe: large stones, wetness.	Severe: large stones, wetness, frost action.	Severe: wetness, frost action.	Severe: large stones, wetness.
Whitman-----	Severe: wetness, large stones.	Severe: wetness, frost action, large stones.	Severe: wetness, large stones.	Severe: large stones, wetness, frost action.	Severe: wetness, frost action.	Severe: large stones, wetness.
LpA, LpB-----	Severe:	Severe:	Severe:	Severe:	Severe:	Slight.



TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
LvC----- Ludlow	Severe: large stones, wetness.	Severe: large stones, frost action.	Severe: large stones, wetness.	Severe: slope, large stones, frost action.	Severe: frost action.	Severe: large stones.
MgA----- Manchester	Severe: small stones, cutbanks cave.	Slight-----	Slight-----	Slight-----	Slight-----	Severe: small stones, droughty.
MgC----- Manchester	Severe: small stones, cutbanks cave.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: slope.	Severe: small stones, droughty.
MyA----- Merrimac	Severe: cutbanks cave.	Slight-----	Slight-----	Slight-----	Slight-----	Slight.
MyB----- Merrimac	Severe: cutbanks cave.	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
NnA----- Ninigret	Severe: wetness, cutbanks cave.	Moderate: wetness.	Severe: wetness.	Moderate: wetness.	Moderate: frost action, wetness.	Slight.
PbB1: Paxton-----	Slight-----	Moderate: frost action.	Slight-----	Moderate: frost action, slope.	Moderate: frost action.	Slight.
Montauk-----	Slight-----	Moderate: frost action.	Slight-----	Moderate: slope, frost action.	Moderate: frost action.	Slight.
PbC1: Paxton-----	Moderate: slope.	Moderate: frost action, slope.	Moderate: slope.	Severe: slope.	Moderate: frost action, slope.	Moderate: slope.
Montauk-----	Moderate: slope.	Moderate: slope, frost action.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.
PbD1: Paxton-----	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Montauk-----	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
PdB1: Paxton-----	Moderate: large stones.	Moderate: frost action, large stones.	Moderate: large stones.	Moderate: frost action, slope.	Moderate: frost action.	Moderate: large stones.
Montauk-----	Moderate: large stones.	Moderate: large stones, frost action.	Moderate: large stones.	Moderate: slope, frost action.	Moderate: frost action.	Moderate: large stones.
PdC1: Paxton-----	Moderate: slope, large stones.	Moderate: frost action, slope.	Moderate: slope, large stones.	Severe: slope.	Moderate: frost action, slope.	Moderate: large stones, slope.
Montauk-----	Moderate: slope, large stones.	Moderate: slope, frost action.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope, large stones.
PeC1: Paxton-----	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Moderate: frost action, large stones, slope.	Severe: large stones.

See footnote at end of table.



TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
PeC <sup>1</sup> : Montauk-----	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Moderate: slope, frost action, large stones.	Severe: large stones.
PeD <sup>1</sup> : Paxton-----	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.
Montauk-----	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.
PnA----- Penwood	Severe: cutbanks cave.	Slight-----	Slight-----	Slight-----	Slight-----	Severe: too sandy, droughty.
PnB----- Penwood	Severe: cutbanks cave.	Slight-----	Slight-----	Moderate: slope.	Slight-----	Severe: too sandy, droughty.
Pr <sup>1</sup> . Pits						
Ps----- Podunk	Severe: floods, wetness.	Severe: floods.	Severe: floods wetness.	Severe: floods.	Severe: floods.	Severe: floods.
Rb----- Raypol	Severe: wetness, small stones, cutbanks cave.	Severe: wetness, frost action.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness, frost action.	Severe: wetness.
Rp <sup>1</sup> : Rock outcrop.						
Hollis-----	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock.	Severe: slope, depth to rock, large stones.
Ru----- Rumney	Severe: floods, wetness, cutbanks cave.	Severe: floods, wetness, frost action.	Severe: floods, wetness.	Severe: floods, wetness, frost action.	Severe: floods, wetness, frost action.	Severe: floods, wetness.
Rv----- Rumney Variant	Severe: floods, wetness.	Severe: floods, wetness, frost action.	Severe: floods, wetness.	Severe: floods, wetness, frost action.	Severe: floods, wetness, frost action.	Severe: floods, wetness.
Sb----- Saco	Severe: floods, wetness, cutbanks cave.	Severe: floods, wetness, frost action.	Severe: floods, wetness.	Severe: floods, wetness, frost action.	Severe: floods, wetness, frost action.	Severe: floods, wetness.
Sc----- Scarboro	Severe: wetness, cutbanks cave.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
SgA----- Sudbury	Severe: wetness, cutbanks cave, small stones.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Moderate: wetness, frost action.	Slight.
St----- Suncook	Severe: floods, cutbanks cave.	Severe: floods.	Severe: floods.	Severe: floods.	Severe: floods.	Moderate: too sandy.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
UD1: Udorthents.  Urban land.						
Ur1. Urban land						
Wd----- Walpole	Severe: wetness, cutbanks cave.	Severe: wetness, frost action.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness, frost action.	Severe: wetness.
We, Wh----- Westbrook	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess humus.	Severe: floods, corrosive, excess humus.	Severe: wetness, low strength, floods.	Severe: wetness, floods, excess salt.
WkB----- Wethersfield	Slight-----	Moderate: frost action.	Slight-----	Moderate: frost action.	Moderate: frost action.	Slight.
WkC----- Wethersfield	Moderate: slope.	Moderate: frost action, slope.	Moderate: slope.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope.
WkD----- Wethersfield	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
WmB----- Wethersfield	Moderate: large stones.	Moderate: frost action, large stones.	Moderate: large stones.	Moderate: slope, frost action, large stones.	Moderate: frost action.	Moderate: large stones.
WmC----- Wethersfield	Moderate: slope, large stones.	Moderate: slope, frost action, large stones.	Moderate: slope, large stones.	Severe: slope.	Moderate: slope, frost action.	Moderate: slope, large stones.
WnC----- Wethersfield	Severe: large stones.	Severe: large stones.	Severe: large stones.	Severe: slope, large stones.	Moderate: slope, frost action, large stones.	Severe: large stones.
Wr----- Wilbraham	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness.	Severe: wetness, frost action.	Severe: wetness, frost action.	Severe: wetness.
Wt----- Wilbraham	Severe: wetness, large stones.	Severe: wetness, large stones, frost action.	Severe: wetness, large stones.	Severe: wetness, large stones.	Severe: wetness, frost action.	Severe: wetness, large stones.
WvA----- Windsor	Severe: cutbanks cave.	Slight-----	Slight-----	Slight-----	Slight-----	Severe: too sandy, droughty.
WvB----- Windsor	Severe: cutbanks cave.	Slight-----	Slight-----	Moderate: slope.	Slight-----	Severe: too sandy, droughty.
WxA, WxB----- Woodbridge	Severe: wetness.	Severe: frost action.	Severe: wetness.	Severe: frost action.	Severe: frost action.	Slight.
WyA, WyB----- Woodbridge	Severe: wetness.	Severe: frost action.	Severe: wetness.	Severe: frost action.	Severe: frost action.	Moderate: large stones.
WzA----- Woodbridge	Severe: wetness, large stones.	Severe: frost action, large stones.	Severe: wetness, large stones.	Severe: frost action, large stones.	Severe: frost action.	Severe: large stones.

See footnote at end of table.

TABLE 8.--BUILDING SITE DEVELOPMENT--Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets	Lawns and landscaping
WzC----- Woodbridge	Severe: wetness, large stones.	Severe: frost action, large stones.	Severe: wetness, large stones.	Severe: slope, frost action, large stones.	Severe: frost action.	Severe: large stones.
YaB----- Yalesville	Severe: depth to rock.	Moderate: depth to rock.	Severe: depth to rock.	Moderate: slope, depth to rock.	Moderate: depth to rock.	Moderate: depth to rock.
YaC----- Yalesville	Severe: depth to rock.	Moderate: slope, depth to rock.	Severe: depth to rock.	Severe: slope.	Moderate: slope, depth to rock.	Moderate: slope, depth to rock.

<sup>1</sup> See the description of the map unit for the composition and behavior characteristics of the entire unit.

TABLE 9.--SANITARY FACILITIES

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," "good," and "fair." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
Aa----- Adrian	Severe: wetness, floods.	Severe: wetness, seepage, floods.	Severe: wetness, floods, seepage.	Severe: wetness, floods, seepage.	Poor: wetness, excess humus.
AfA, AfB----- Agawam	Slight <sup>1</sup> -----	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: thin layer, area reclaim.
Ba <sup>2</sup> : Beaches.  Udipsamments.					
BcA----- Berlin	Severe: wetness, percs slowly.	Slight-----	Severe: wetness, too clayey.	Severe: wetness.	Poor: too clayey.
BoA, BoB----- Branford	Slight <sup>1</sup> -----	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: thin layer, area reclaim.
BoC----- Branford	Moderate: <sup>1</sup> slope.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, thin layer, area reclaim.
CbB <sup>2</sup> : Canton-----	Slight-----	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: small stones, thin layer.
Charlton-----	Slight-----	Severe: seepage.	Severe: seepage.	Severe: seepage.	Good.
CcB <sup>2</sup> : Canton-----	Moderate: large stones.	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: large stones, thin layer.
Charlton-----	Moderate: large stones.	Severe: seepage.	Severe: seepage.	Severe: seepage.	Fair: large stones.
CcC <sup>2</sup> : Canton-----	Moderate: slope, large stones.	Severe: slope, seepage.	Severe: seepage.	Severe: seepage.	Fair: slope, large stones, thin layer.
Charlton-----	Moderate: slope, large stones.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope, large stones.
CdC <sup>2</sup> : Canton-----	Severe: large stones.	Severe: slope, seepage.	Severe: seepage, large stones.	Severe: seepage.	Poor: large stones.
Charlton-----	Severe: large stones.	Severe: seepage, slope.	Severe: seepage, large stones.	Severe: seepage.	Poor: large stones.

See footnotes at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
CdD <sup>2</sup> : Canton-----	Severe: slope, large stones.	Severe: slope, seepage.	Severe: seepage, large stones.	Severe: slope, seepage.	Poor: slope, large stones.
Charlton-----	Severe: slope, large stones.	Severe: seepage, slope.	Severe: seepage, large stones.	Severe: seepage, slope.	Poor: slope, large stones.
Ce----- Carlisle	Severe: floods, wetness.	Severe: wetness, excess humus, seepage.	Severe: floods, wetness, seepage.	Severe: floods, wetness, seepage.	Poor: wetness, excess humus.
CrC: Charlton-----	Moderate: slope, large stones.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope, large stones.
Hollis-----	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage.	Poor: thin layer, area reclaim.
CsB----- Cheshire	Slight-----	Severe: seepage.	Severe: seepage.	Severe: seepage.	Good.
CsC----- Cheshire	Moderate: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: slope.
CyC <sup>2</sup> : Cheshire-----	Moderate: large stones, slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage.	Fair: large stones, slope.
Holyoke-----	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage.	Poor: thin layer, area reclaim.
EfA----- Ellington	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness.	Severe: wetness.	Fair: thin layer, area reclaim.
HfA, HfB----- Hartford	Slight <sup>1</sup> -----	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: thin layer, area reclaim.
HkC----- Hinckley	Moderate: <sup>1</sup> slope.	Severe: slope, seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, area reclaim.
HME <sup>2</sup> : Hinckley-----	Severe: slope.	Severe: slope, seepage.	Severe: slope, seepage, too sandy.	Severe: slope, seepage.	Poor: slope, too sandy, area reclaim
Manchester-----	Severe: slope.	Severe: slope, seepage.	Severe: slope, seepage, too sandy.	Severe: slope, seepage.	Poor: slope, too sandy, area reclaim.
HpE <sup>2</sup> : Hollis-----	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, seepage.	Severe: slope, depth to rock, seepage, large stones.	Severe: slope, seepage.	Poor: slope, thin layer, area reclaim, large stones.

See footnotes at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
HpE <sup>2</sup> : Charlton-----	Severe: slope, large stones.	Severe: seepage, slope.	Severe: slope, seepage, large stones.	Severe: seepage, slope.	Poor: slope, large stones.
HrC <sup>2</sup> : Hollis-----	Severe: depth to rock, large stones.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage, large stones.	Severe: seepage.	Poor: thin layer, area reclaim, large stones.
Rock outcrop.					
HSE <sup>2</sup> : Hollis-----	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, seepage.	Severe: slope, depth to rock, seepage, large stones.	Severe: slope, seepage.	Poor: slope, thin layer, area reclaim, large stones.
Rock outcrop.					
HuD <sup>2</sup> : Holyoke-----	Severe: slope, depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: slope, seepage.	Poor: slope, thin layer, area reclaim.
Cheshire-----	Severe: slope.	Severe: seepage, slope.	Severe: seepage.	Severe: seepage, slope.	Poor: slope.
HyC <sup>2</sup> : Holyoke-----	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage.	Severe: seepage.	Poor: thin layer, area reclaim.
Rock outcrop.					
HZE <sup>2</sup> : Holyoke-----	Severe: slope, depth to rock.	Severe: slope, depth to rock, seepage.	Severe: slope, depth to rock, seepage.	Severe: slope, seepage.	Poor: slope, thin layer, area reclaim.
Rock outcrop.					
LG <sup>2</sup> : Leicester-----	Severe: large stones, wetness.	Severe: wetness, seepage.	Severe: large stones, wetness, seepage.	Severe: wetness, seepage.	Poor: large stones, wetness.
Ridgebury-----	Severe: large stones, percs slowly, wetness.	Moderate: large stones.	Severe: wetness, large stones.	Severe: wetness.	Poor: wetness, large stones.
Whitman-----	Severe: wetness, percs slowly.	Moderate: large stones.	Severe: wetness.	Severe: wetness.	Poor: wetness.
LpA----- Ludlow	Severe: percs slowly, wetness.	Slight-----	Severe: wetness.	Severe: wetness.	Fair: area reclaim.

See footnotes at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
LpB----- Ludlow	Severe: percs slowly, wetness.	Moderate: slope.	Severe: wetness.	Severe: wetness.	Fair: area reclaim.
LuB----- Ludlow	Severe: percs slowly, wetness.	Moderate: slope.	Severe: wetness.	Severe: wetness.	Fair: large stones, area reclaim.
LvC----- Ludlow	Severe: percs slowly, wetness, large stones.	Severe: slope.	Severe: large stones, wetness.	Severe: wetness.	Poor: large stones.
MgA----- Manchester	Slight <sup>1</sup> -----	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: thin layer, too sandy, area reclaim.
MgC----- Manchester	Moderate: <sup>1</sup> slope.	Severe: slope, seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: thin layer, too sandy, area reclaim.
MyA, MyB----- Merrimac	Slight <sup>1</sup> -----	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: thin layer, area reclaim.
NnA----- Ninigret	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Fair: thin layer, area reclaim.
PbB <sup>2</sup> : Paxton-----	Severe: percs slowly.	Moderate: slope.	Slight-----	Slight-----	Fair: small stones.
Montauk-----	Severe: percs slowly.	Moderate: slope.	Slight-----	Slight-----	Fair: small stones.
PbC <sup>2</sup> : Paxton-----	Severe: percs slowly.	Severe: slope.	Slight-----	Moderate: slope.	Fair: small stones.
Montauk-----	Severe: percs slowly.	Severe: slope.	Slight-----	Moderate: slope.	Fair: small stones.
PbD <sup>2</sup> : Paxton-----	Severe: slope, percs slowly.	Severe: slope.	Moderate: slope.	Severe: slope.	Poor: slope.
Montauk-----	Severe: slope, percs slowly.	Severe: slope.	Moderate: slope.	Severe: slope.	Poor: slope.
PdB <sup>2</sup> : Paxton-----	Severe: percs slowly.	Moderate: slope.	Moderate: large stones.	Slight-----	Fair: large stones.
Montauk-----	Severe: percs slowly.	Moderate: slope.	Moderate: large stones.	Slight-----	Fair: large stones.
PdC <sup>2</sup> : Paxton-----	Severe: percs slowly.	Severe: slope.	Moderate: large stones.	Moderate: slope.	Fair: large stones, slope.
Montauk-----	Severe: percs slowly.	Severe: slope.	Moderate: large stones.	Moderate: slope.	Fair: slope, large stones.

See footnotes at end of table.



TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
PeC <sup>2</sup> : Paxton-----	Severe: percs slowly, large stones.	Severe: slope.	Severe: large stones.	Moderate: slope.	Poor: large stones.
Montauk-----	Severe: percs slowly, large stones.	Severe: slope.	Severe: large stones.	Moderate: slope.	Poor: large stones.
PeD <sup>2</sup> : Paxton-----	Severe: slope, percs slowly, large stones.	Severe: slope.	Severe: large stones.	Severe: slope.	Poor: slope, large stones.
Montauk-----	Severe: slope, large stones, percs slowly.	Severe: slope.	Severe: large stones.	Severe: slope.	Poor: slope, large stones.
PnA, PnB----- Penwood	Slight <sup>1</sup> -----	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, area reclaim.
Pr <sup>2</sup> . Pits					
Ps----- Podunk	Severe: floods, wetness.	Severe: floods, wetness, seepage.	Severe: floods, seepage.	Severe: floods, wetness, seepage.	Good.
Rb----- Raypol	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage, too sandy.	Severe: wetness, seepage.	Poor: wetness, small stones.
Rp <sup>2</sup> : Rock outcrop.					
Hollis-----	Severe: slope, depth to rock, large stones.	Severe: slope, depth to rock, seepage.	Severe: depth to rock, seepage, large stones.	Severe: slope, seepage.	Poor: slope, thin layer, area reclaim, large stones.
Ru----- Rumney	Severe: floods, wetness.	Severe: floods, wetness, seepage.	Severe: floods, wetness, seepage.	Severe: floods, wetness, seepage.	Poor: wetness.
Rv----- Rumney Variant	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Severe: floods, wetness.	Poor: wetness.
Sb----- Saco	Severe: floods, wetness.	Severe: floods, wetness, seepage.	Severe: floods, wetness, seepage.	Severe: floods, wetness, seepage.	Poor: wetness.
Sc----- Scarboro	Severe: wetness.	Severe: wetness, seepage.	Severe: wetness, seepage.	Severe: wetness, seepage.	Poor: wetness.
SgA----- Sudbury	Severe: wetness.	Severe: wetness, seepage.	Severe: seepage.	Severe: wetness, seepage.	Poor: thin layer, area reclaim.

See footnotes at end of table.



TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
St----- Suncook	Severe: floods.	Severe: floods, seepage.	Severe: floods, seepage.	Severe: floods, seepage.	Poor: area reclaim. too sandy.
UD2: Udorthents.  Urban land.					
Ur2. Urban land					
Wd----- Walpole	Severe: wetness.	Severe: wetness, seepage.	Severe: seepage, wetness.	Severe: seepage, wetness.	Poor: wetness.
We, Wh----- Westbrook	Severe: wetness, floods.	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess humus.	Severe: wetness, floods.	Poor: excess humus, wetness.
WkB----- Wethersfield	Severe: percs slowly.	Moderate: slope.	Slight-----	Slight-----	Fair: small stones.
WkC----- Wethersfield	Severe: percs slowly.	Severe: slope.	Slight-----	Moderate: slope.	Fair: small stones.
WkD----- Wethersfield	Severe: slope, percs slowly.	Severe: slope.	Moderate: slope.	Severe: slope.	Poor: slope.
WmB----- Wethersfield	Severe: percs slowly.	Moderate: slope.	Moderate: large stones.	Slight-----	Fair: large stones.
WmC----- Wethersfield	Severe: percs slowly.	Severe: slope.	Moderate: large stones.	Moderate: slope.	Fair: slope, large stones.
WnC----- Wethersfield	Severe: percs slowly, large stones.	Severe: slope.	Severe: large stones.	Moderate: slope.	Poor: large stones.
Wr----- Wilbraham	Severe: percs slowly, wetness.	Slight-----	Severe: wetness.	Severe: wetness.	Poor: wetness.
Wt----- Wilbraham	Severe: wetness, percs slowly, large stones.	Moderate: large stones.	Severe: wetness, large stones.	Severe: wetness.	Poor: wetness, large stones.
WvA, WvB----- Windsor	Slight <sup>1</sup> -----	Severe: seepage.	Severe: seepage, too sandy.	Severe: seepage.	Poor: too sandy, area reclaim.
WxA----- Woodbridge	Severe: percs slowly, wetness.	Slight-----	Severe: wetness.	Severe: wetness.	Fair: small stones.
WxB----- Woodbridge	Severe: percs slowly.	Moderate: slope.	Severe: wetness.	Severe: wetness.	Fair: small stones.
WyA, WyB----- Woodbridge	Severe: percs slowly.	Moderate: large stones.	Severe: wetness.	Severe: wetness.	Fair: large stones.
WzA----- Woodbridge	Severe: percs slowly.	Severe: large stones.	Severe: wetness.	Severe: wetness.	Poor: large stones.

See footnotes at end of table.

TABLE 9.--SANITARY FACILITIES--Continued

Soil name and map symbol	Septic tank absorption fields	Sewage lagoon areas	Trench sanitary landfill	Area sanitary landfill	Daily cover for landfill
WzC----- Woodbridge	Severe: percs slowly.	Severe: slope, large stones.	Severe: wetness.	Severe: wetness.	Poor: large stones.
YaB----- Yalesville	Severe: depth to rock.	Severe: depth to rock, seepage.	Severe: depth to rock.	Severe: seepage.	Fair: thin layer, area reclaim.
YaC----- Yalesville	Severe: depth to rock.	Severe: slope, depth to rock, seepage.	Severe: depth to rock.	Severe: seepage.	Fair: slope, thin layer, area reclaim.

<sup>1</sup> Because of rapid permeability ground water may become polluted.

<sup>2</sup> See description of the map unit for composition and behavior characteristics of the entire map unit.

TABLE 10.--CONSTRUCTION MATERIALS

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and "poor." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Aa----- Adrian	Poor: excess humus, wetness.	Poor: excess humus.	Poor: excess fines, excess humus.	Poor: wetness, excess humus.
AfA, AfB----- Agawam	Good-----	Good-----	Good-----	Fair: area reclaim.
Ba1: Beaches.  Udipsamments.				
BcA----- Berlin	Poor: frost action, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Good.
BoA, BoB----- Branford	Good-----	Good-----	Good-----	Fair: area reclaim.
BoC----- Branford	Good-----	Good-----	Good-----	Fair: slope, area reclaim.
CbB1: Canton-----	Good-----	Poor: excess fines.	Poor: excess fines.	Poor: small stones.
Charlton-----	Good-----	Poor: excess fines.	Poor: excess fines.	Fair: small stones.
CcB1, CcC1: Canton-----	Good-----	Poor: excess fines.	Poor: excess fines.	Poor: large stones.
Charlton-----	Good-----	Poor: excess fines.	Poor: excess fines.	Poor: large stones.
CdC1: Canton-----	Fair: large stones.	Poor: excess fines.	Poor: excess fines.	Poor: large stones.
Charlton-----	Fair: large stones.	Poor: excess fines.	Poor: excess fines.	Poor: large stones.
CdD1: Canton-----	Fair: slope, large stones.	Poor: excess fines.	Poor: excess fines.	Poor: slope, large stones.
Charlton-----	Fair: slope, large stones.	Poor: excess fines.	Poor: excess fines.	Poor: slope, large stones.
Ce----- Carlisle	Poor: low strength, wetness, excess humus.	Unsuited: excess humus.	Unsuited: excess humus.	Poor: wetness, excess humus.
CrC1: Charlton-----	Good-----	Poor: excess fines.	Poor: excess fines.	Poor: large stones.

See footnote at end of table.

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
CrC <sup>1</sup> : Hollis-----	Poor: thin layer, area reclaim.	Unsuited: thin layer, excess fines.	Unsuited: thin layer, excess fines.	Poor: thin layer, area reclaim, large stones.
CsB, CsC----- Cheshire	Good-----	Unsuited: excess fines.	Unsuited: excess fines.	Fair: small stones.
CyC <sup>1</sup> : Cheshire-----	Good-----	Unsuited: excess fines.	Unsuited: excess fines.	Poor: large stones.
Holyoke-----	Poor: thin layer, area reclaim.	Unsuited: thin layer, excess fines.	Unsuited: thin layer, excess fines.	Poor: thin layer, area reclaim.
EfA----- Ellington	Fair: frost action.	Good-----	Good-----	Fair: area reclaim.
HfA, HfB----- Hartford	Good-----	Good-----	Good-----	Fair: thin layer, area reclaim.
HKC----- Hinckley	Good-----	Good-----	Good-----	Poor: too sandy, area reclaim.
HME <sup>1</sup> : Hinckley-----	Poor: slope.	Good-----	Good-----	Poor: slope, too sandy, area reclaim.
Manchester-----	Poor: slope.	Good-----	Good-----	Poor: slope, too sandy, area reclaim.
HpE <sup>1</sup> : Hollis-----	Poor: slope, thin layer, area reclaim.	Unsuited: thin layer, excess fines.	Unsuited: thin layer, excess fines.	Poor: slope, thin layer, area reclaim, large stones.
Charlton-----	Poor: slope.	Poor: excess fines.	Poor: excess fines.	Poor: slope, large stones.
HrC <sup>1</sup> : Hollis-----	Poor: thin layer, area reclaim.	Unsuited: thin layer, excess fines.	Unsuited: thin layer, excess fines.	Poor: thin layer, area reclaim, large stones.
Rock outcrop.				
HSE <sup>1</sup> : Hollis-----	Poor: slope, thin layer, area reclaim.	Unsuited: thin layer, excess fines.	Unsuited: thin layer, excess fines.	Poor: slope, thin layer, area reclaim, large stones.
Rock outcrop.				

See footnote at end of table.

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
HuD <sup>1</sup> : Holyoke-----	Poor: thin layer, area reclaim.	Unsuited: thin layer, excess fines.	Unsuited: thin layer, excess fines.	Poor: slope, thin layer, area reclaim.
Cheshire-----	Fair: slope.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: large stones, slope.
HyC <sup>1</sup> : Holyoke-----	Poor: thin layer, area reclaim.	Unsuited: thin layer, area reclaim.	Unsuited: thin layer, area reclaim.	Poor: thin layer, area reclaim.
Rock outcrop.				
HZE <sup>1</sup> : Holyoke-----	Poor: slope, thin layer, area reclaim.	Unsuited: thin layer, area reclaim.	Unsuited: thin layer, area reclaim.	Poor: slope, thin layer, area reclaim.
Rock outcrop.				
LG <sup>1</sup> : Leicester-----	Poor: wetness, frost action.	Poor: excess fines.	Poor: excess fines.	Poor: wetness, large stones.
Ridgebury-----	Poor: wetness, frost action.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness, large stones.
Whitman-----	Poor: wetness, frost action.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness, large stones.
LpA, LpB----- Ludlow	Poor: frost action.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: small stones.
LuB, LvC----- Ludlow	Poor: frost action.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: large stones.
MgA, MgC----- Manchester	Good-----	Good-----	Good-----	Poor: too sandy, area reclaim.
MyA, MyB----- Merrimac	Good-----	Good-----	Good-----	Fair: thin layer, area reclaim.
NnA----- Ninigret	Fair: frost action.	Good-----	Good-----	Fair. area reclaim.
PbB <sup>1</sup> : Paxton-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Fair: small stones.
Montauk-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Fair: small stones.
PbC <sup>1</sup> : Paxton-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Fair: small stones, slope.

See footnote at end of table.

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
PbC <sup>1</sup> : Montauk-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Fair: slope, small stones.
PbD <sup>1</sup> : Paxton-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: slope.
Montauk-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: slope.
PdB <sup>1</sup> , PdC <sup>1</sup> : Paxton-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: large stones, slope.
Montauk-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: large stones, slope.
PeC <sup>1</sup> : Paxton-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: large stones.
Montauk-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: large stones.
PeD <sup>1</sup> : Paxton-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: slope, large stones.
Montauk-----	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: slope, large stones.
PnA, PnB----- Penwood	Good-----	Good-----	Poor: excess fines.	Poor: too sandy, area reclaim.
Pr <sup>1</sup> . Pits				
Ps----- Podunk	Good-----	Fair: excess fines.	Poor: excess fines.	Good.
Rb----- Raypol	Poor: wetness, frost action.	Fair: excess fines.	Fair: excess fines.	Poor: wetness.
Rp <sup>1</sup> : Rock outcrop.				
Hollis-----	Poor: thin layer, area reclaim.	Unsuited: excess fines, thin layer.	Unsuited: excess fines, thin layer.	Poor: slope, thin layer, area reclaim.
Ru----- Rumney	Poor: wetness.	Fair: excess fines.	Poor: excess fines.	Poor: wetness.
Rv----- Rumney Variant	Poor: wetness, frost action.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.
Sb----- Saco	Poor: wetness, frost action.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.

See footnote at end of table.

TABLE 10.--CONSTRUCTION MATERIALS--Continued

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Sc----- Scarboro	Poor: wetness.	Good-----	Poor: excess fines.	Poor: wetness, too sandy.
SgA----- Sudbury	Fair: wetness.	Good-----	Good-----	Fair: small stones, area reclaim.
St----- Suncook	Good-----	Poor: excess fines.	Unsuited: excess fines.	Poor: too sandy.
UD <sup>1</sup> : Udorthents.  Urban land.				
Ur <sup>1</sup> . Urban land				
Wd----- Walpole	Poor: wetness.	Good-----	Fair: excess fines.	Poor: wetness.
We, Wh----- Westbrook	Poor: excess humus, wetness.	Unsuited: excess humus.	Unsuited: excess humus.	Poor: wetness, excess salt.
WkB----- Wethersfield	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Fair: small stones.
WkC----- Wethersfield	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Fair: slope, small stones.
WkD----- Wethersfield	Fair: slope, frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: slope.
WmB, WmC----- Wethersfield	Fair: frost action.	Unsuited: excess fines.	Poor: excess fines.	Poor: large stones.
WnC----- Wethersfield	Fair: frost action, large stones.	Unsuited: excess fines, large stones.	Poor: excess fines.	Poor: large stones.
Wr----- Wilbraham	Poor: frost action, wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness.
Wt----- Wilbraham	Poor: wetness.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: wetness, large stones.
WvA, WvB----- Windsor	Good-----	Good-----	Poor: excess fines.	Poor: too sandy, area reclaim.
WxA, WxB----- Woodbridge	Poor: frost action.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: small stones.
WyA, WyB, WzA, WzC----- Woodbridge	Poor: frost action.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: large stones.
YaB----- Yalesville	Poor: thin layer, area reclaim.	Unsuited: excess fines, thin layer.	Unsuited: excess fines.	Fair: small stones.
YaC----- Yalesville	Poor: thin layer, area reclaim.	Unsuited: excess fines, thin layer.	Unsuited: excess fines.	Fair: slope, thin layer, small stones.

<sup>1</sup> See description of the map unit for the composition and behavior characteristics of the entire map unit.

TABLE 11.--WATER MANAGEMENT

that the soil was not evaluated]

Soil name and map symbol	Pond reservoir areas	Embankments dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
Aa----- Adrian	Seepage-----	Seepage, wetness, hard to pack.	Favorable-----	Floods, excess humus.	Not needed-----	Wetness.
AfA, AfB----- Agawam	Slope, seepage.	Seepage, piping.	No water-----	Not needed-----	Slope, erodes easily.	Slope, erodes easily.
Ba <sup>1</sup> : Beaches. Udipsamments.						
BcA----- Berlin	Slope-----	Low strength, erodes easily.	Deep to water	Slope, percs slowly, frost action.	Slope, erodes easily, wetness.	Slope, erodes easily, percs slowly.
BoA, BoB, BoC----- Branford	Seepage, slope.	Seepage, piping.	No water-----	Not needed-----	Slope, erodes easily.	Slope, erodes easily.
CbB <sup>1</sup> : Canton-----	Slope, seepage.	Seepage-----	No water-----	Not needed-----	Slope, small stones, too sandy.	Slope, erodes easily.
Charlton-----	Seepage,	Seepage-----	No water-----	Not needed-----	Slope,	Slope,



TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
HfA-----	Slope.	Seepage	Deep to water	Wetness	Seepage	Slope
Ellington	seepage.	pipng.	cutbanks cave.	slope, cutbanks cave.	slope, erodes easily.	erodes easily, seepage.
HfA, HfB----- Hartford	Slope, seepage.	Seepage-----	No water-----	Not needed-----	Slope-----	Slope, droughty.
HkC----- Hinckley	Slope, seepage.	Thin layer, seepage.	No water-----	Not needed-----	Slope, too sandy.	Slope, droughty.
HME1: Hinckley-----	Slope, seepage.	Thin layer, seepage.	No water-----	Not needed-----	Slope, too sandy.	Slope, droughty.
Manchester-----	Slope, seepage.	Seepage, thin layer.	No water-----	Not needed-----	Slope, too sandy.	Slope, droughty.
HpE1: Hollis-----	Slope, depth to rock, seepage.	Thin layer, seepage, large stones.	No water, depth to rock.	Not needed-----	Slope, depth to rock, rooting depth, large stones.	Slope, droughty, rooting depth, large stones.
Charlton-----	Seepage, slope.	Seepage, large stones.	No water-----	Not needed-----	Large stones, slope, erodes easily.	Large stones, slope, erodes easily.
HrC1, HSE1: Hollis-----	Slope, depth to rock, seepage.	Thin layer, seepage, large stones.	No water, depth to rock.	Not needed-----	Slope, depth to rock, rooting depth, large stones.	Slope, droughty, rooting depth, large stones.
Rock outcrop.						
HuD1: Holyoke-----	Slope, depth to rock, seepage.	Thin layer, pipng, seepage, large stones.	No water, depth to rock.	Not needed-----	Slope, depth to rock, rooting depth, large stones.	Slope, droughty, rooting depth, large stones.
Cheshire-----	Seepage, slope.	Seepage, large stones.	No water-----	Not needed-----	Large stones, slope.	Large stones, slope.
HyC1, HZE1: Holyoke-----	Slope, depth to rock, seepage.	Thin layer, pipng, seepage, large stones.	No water, depth to rock.	Not needed-----	Slope, depth to rock, rooting depth, large stones.	Slope, droughty, rooting depth, large stones.
Rock outcrop.						
LG1: Leicester-----	Seepage, slope.	Seepage, large stones.	Large stones-----	Wetness-----	Wetness, large stones.	Wetness, large stones.
Ridgebury-----	Slope-----	Large stones-----	Large stones-----	Wetness, percs slowly.	Wetness, large stones,	Wetness, large stones,

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
MgA, MgC----- Manchester	Slope, seepage.	Seepage, thin layer.	No water-----	Not needed-----	Slope, too sandy, complex slope.	Slope, droughty.
MyA, MyB----- Merrimac	Slope, seepage.	Seepage-----	No water-----	Not needed-----	Slope, too sandy.	Slope, droughty.
NnA----- Ninigret	Slope, seepage.	Seepage-----	Deep to water, cutbanks cave.	Wetness, slope, cutbanks cave.	Slope, wetness.	Slope, wetness.
PbB1, PbC1, PbD1: Paxton-----	Favorable, slope.	Favorable-----	No water-----	Not needed-----	Percs slowly, erodes easily.	Percs slowly, slope, erodes easily.
Montauk-----	Slope, seepage.	Piping-----	No water-----	Not needed-----	Percs slowly, erodes easily, slope.	Percs slowly, slope, erodes easily.
PdB1, PdC1, PeC1, PeD1: Paxton-----	Slope-----	Large stones---	No water-----	Not needed-----	Large stones, percs slowly, slope.	Large stones, percs slowly, slope.
Montauk-----	Slope-----	Large stones, piping.	No water-----	Not needed-----	Large stones, percs slowly, slope.	Large stones, percs slowly, slope.
PnA, PnB----- Penwood	Seepage, slope.	Seepage-----	No water-----	Not needed-----	Too sandy, slope.	Droughty, slope.
Pr1. Pits						
Ps----- Podunk	Floods, seepage.	Seepage, erodes easily.	Floods, deep to water.	Poor outlets, floods.	Not needed-----	Not needed.
Rb----- Raypol	Seepage-----	Seepage, piping.	Favorable-----	Wetness-----	Wetness, erodes easily.	Wetness, erodes easily.
Rp1: Rock outcrop.						
Hollis-----	Slope, depth to rock, seepage.	Thin layer, seepage.	No water, depth to rock.	Not needed-----	Slope, depth to rock, rooting depth, large stones.	Slope, droughty, rooting depth, large stones.
Ru----- Rumney	Floods-----	Seepage-----	Favorable-----	Wetness, floods, poor outlets.	Not needed-----	Not needed.
Rv----- Rumney Variant	Seepage, floods.	Piping, seepage.	Floods-----	Floods, wetness.	Not needed-----	Wetness.
Sb----- Saco	Seepage-----	Piping, wetness.	Favorable-----	Floods, frost action.	Not needed-----	Wetness, erodes easily.
Sc----- Scarboro	Seepage-----	Hard to pack, seepage.	Favorable-----	Cutbanks cave, wetness.	Not needed-----	Wetness.
SgA----- Sudbury	Slope, seepage.	Seepage-----	Deep to water, cutbanks cave.	Cutbanks cave.	Slope, too sandy.	Wetness, slope.
St----- Suncook	Seepage, floods.	Seepage, erodes easily.	Deep to water	Not needed-----	Not needed-----	Not needed.

See footnote at end of table.

TABLE 11.--WATER MANAGEMENT--Continued

Soil name and map symbol	Pond reservoir areas	Embankments dikes, and levees	Aquifer-fed excavated ponds	Drainage	Terraces and diversions	Grassed waterways
UD1: Udorthents.  Urban land.						
Ur1. Urban land						
Wd----- Walpole	Seepage-----	Hard to pack, seepage.	Favorable-----	Wetness-----	Wetness, piping.	Wetness.
We, Wh----- Westbrook	Excess humus, seepage, floods.	Hard to pack, excess humus, seepage.	Salty water----	Floods, wetness, excess salt.	Not needed-----	Not needed.
WkB, WkC, WkD----- Wethersfield	Slope-----	Favorable-----	No water-----	Not needed-----	Slope, erodes easily.	Slope, erodes easily.
WmB, WmC, WnC----- Wethersfield	Slope, large stones.	Large stones----	No water-----	Not needed-----	Slope, large stones, erodes easily.	Slope, large stones, erodes easily.
Wr----- Wilbraham	Slope-----	Favorable-----	Favorable-----	Wetness, percs slowly.	Wetness, percs slowly.	Wetness, percs slowly.
Wt----- Wilbraham	Slope-----	Large stones----	Large stones----	Wetness, percs slowly.	Wetness, large stones, percs slowly.	Wetness, large stones, percs slowly.
WvA, WvB-----	Seepage,	Seepage-----	No water-----	Not needed-----	Slope,	Droughty, slope

TABLE 12.--RECREATIONAL DEVELOPMENT

[Some terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "slight," "moderate," and "severe." Absence of an entry indicates that the soil was not rated]

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Aa----- Adrian	Severe: wetness, excess humus.	Severe: wetness, excess humus.	Severe: wetness, excess humus.	Severe: wetness, excess humus.	Severe: excess humus, wetness.
AfA----- Agawam	Slight-----	Slight-----	Slight-----	Slight-----	Slight.
AfB----- Agawam	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
Ba1: Beaches.  Udipsamments.					
BcA----- Berlin	Moderate: wetness, percs slowly.	Moderate: too clayey.	Moderate: percs slowly, too clayey.	Slight-----	Slight.
BoA----- Branford	Slight-----	Slight-----	Slight-----	Slight-----	Slight.
BoB----- Branford	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
BoC----- Branford	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight-----	Moderate: slope.
CbB1: Canton-----	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
Charlton-----	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
CcB1: Canton-----	Moderate: large stones.	Slight-----	Moderate: slope, large stones.	Moderate: large stones.	Moderate: large stones.
Charlton-----	Moderate: large stones.	Slight-----	Moderate: slope, large stones.	Moderate: large stones.	Moderate: large stones.
CcC1: Canton-----	Moderate: slope, large stones.	Moderate: slope.	Severe: slope.	Moderate: large stones.	Moderate: large stones, slope.
Charlton-----	Moderate: slope, large stones.	Moderate: slope.	Severe: slope.	Moderate: large stones.	Moderate: slope, large stones.
CdC1: Canton-----	Severe: large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.

See footnote at end of table.

TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
CdC1: Charlton-----	Severe: large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
CdD1: Canton-----	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.	Severe: large stones.	Severe: slope, large stones.
Charlton-----	Severe: large stones, slope.	Severe: slope.	Severe: slope, large stones.	Severe: large stones.	Severe: slope, large stones.
Ce----- Carlisle	Severe: wetness, excess humus.	Severe: wetness, excess humus.	Severe: excess humus, wetness.	Severe: wetness, excess humus.	Severe: excess humus, wetness.
CrC1: Charlton-----	Moderate: slope, large stones.	Moderate: slope.	Severe: slope.	Moderate: large stones.	Moderate: slope, large stones.
Hollis-----	Moderate: slope, large stones.	Moderate: slope.	Severe: slope, depth to rock.	Moderate: large stones.	Severe: depth to rock.
CsB----- Cheshire	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
CsC----- Cheshire	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight-----	Moderate: slope.
CyC1: Cheshire-----	Moderate: large stones, slope.	Moderate: slope.	Severe: slope.	Moderate: large stones.	Moderate: large stones, slope.
Holyoke-----	Moderate: slope, large stones.	Moderate: slope.	Severe: slope, depth to rock.	Moderate: large stones.	Severe: depth to rock.
EfA----- Ellington	Slight-----	Slight-----	Moderate: wetness.	Slight-----	Slight.
HfA----- Hartford	Slight-----	Slight-----	Slight-----	Slight-----	Moderate: droughty.
HfB----- Hartford	Slight-----	Slight-----	Moderate: slope.	Slight-----	Moderate: droughty.
HkC----- Hinckley	Moderate: too sandy, small stones.	Moderate: too sandy, small stones.	Severe: slope, small stones.	Moderate: too sandy, small stones.	Severe: small stones, droughty.
HME1: Hinckley-----	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope, small stones, droughty.
Manchester-----	Severe: slope.	Severe: slope.	Severe: slope, small stones.	Severe: slope.	Severe: slope, small stones, droughty.

See footnote at end of table.

TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
HpE <sup>1</sup> : Hollis-----	Severe: slope, large stones.	Severe: slope.	Severe: slope, depth to rock, large stones.	Severe: slope, large stones.	Severe: slope, depth to rock, large stones.
Charlton-----	Severe: large stones, slope.	Severe: slope.	Severe: slope, large stones.	Severe: slope, large stones.	Severe: slope, large stones.
HrC <sup>1</sup> : Hollis-----	Severe: large stones.	Moderate: slope, large stones.	Severe: slope, depth to rock, large stones.	Severe: large stones.	Severe: depth to rock, large stones.
Rock outcrop.					
HSE <sup>1</sup> : Hollis-----	Severe: slope, large stones.	Severe: slope.*	Severe: slope, depth to rock, large stones.	Severe: slope, large stones.	Severe: slope, depth to rock, large stones.
Rock outcrop.					
HuD <sup>1</sup> : Holyoke-----	Severe: slope.	Severe: slope.	Severe: slope, depth to rock.	Moderate: slope, large stones.	Severe: slope, depth to rock.
Cheshire-----	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: large stones, slope.	Severe: slope.
HyC <sup>1</sup> : Holyoke-----	Moderate: slope, large stones.	Moderate: slope.	Severe: slope, depth to rock.	Moderate: large stones.	Severe: depth to rock, large stones.
Rock outcrop.					
HZE <sup>1</sup> : Holyoke-----	Severe: slope.	Severe: slope.	Severe: slope, depth to rock.	Severe: slope.	Severe: slope, depth to rock.
Rock outcrop.					
LG <sup>1</sup> : Leicester-----	Severe: large stones, wetness.	Severe: wetness.	Severe: large stones, wetness.	Severe: large stones, wetness.	Severe: large stones, wetness.
Ridgebury-----	Severe: wetness, large stones.	Severe: wetness.	Severe: large stones, wetness.	Severe: wetness, large stones.	Severe: large stones, wetness.
Whitman-----	Severe: wetness, large stones.	Severe: wetness.	Severe: wetness, large stones.	Severe: wetness, large stones.	Severe: large stones, wetness.
LpA----- Ludlow	Moderate: percs slowly.	Slight-----	Moderate: percs slowly, wetness.	Slight-----	Slight.
LpB----- Ludlow	Moderate: percs slowly.	Slight-----	Moderate: slope, percs slowly, wetness.	Slight-----	Slight.

See footnote at end of table.

TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
LuB----- Ludlow	Moderate: large stones, percs slowly.	Slight-----	Moderate: slope, percs slowly, large stones, wetness.	Moderate: large stones.	Moderate: large stones.
LvC----- Ludlow	Severe: large stones.	Moderate: large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
MgA----- Manchester	Moderate: small stones.	Moderate: small stones.	Severe: small stones.	Moderate: small stones.	Severe: small stones, droughty.
MgC----- Manchester	Moderate: slope, small stones.	Moderate: slope, small stones.	Severe: slope, small stones.	Moderate: small stones.	Severe: small stones, droughty.
MyA----- Merrimac	Slight-----	Slight-----	Slight-----	Slight-----	Slight.
MyB----- Merrimac	Slight-----	Slight-----	Moderate: slope.	Slight-----	Slight.
NnA----- Ninigret	Slight-----	Slight-----	Moderate: wetness.	Slight-----	Slight.
PbB1: Paxton-----	Moderate: percs slowly.	Slight-----	Moderate: percs slowly, slope.	Slight-----	Slight.
Montauk-----	Moderate: percs slowly.	Slight-----	Moderate: slope, percs slowly.	Slight-----	Slight.
PbC1: Paxton-----	Moderate: percs slowly, slope.	Moderate: slope.	Severe: slope.	Slight-----	Moderate: slope.
Montauk-----	Moderate: slope, percs slowly.	Moderate: slope.	Severe: slope.	Slight-----	Moderate: slope.
PbD1: Paxton-----	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
Montauk-----	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
PdB1: Paxton-----	Moderate: percs slowly, large stones..	Slight-----	Moderate: percs slowly, slope, large stones.	Moderate: large stones.	Moderate: large stones.
Montauk-----	Moderate: large stones, percs slowly.	Slight-----	Moderate: percs slowly, slope, large stones.	Moderate: large stones.	Moderate: large stones.
PdC1: Paxton-----	Moderate:	Moderate:	Severe:	Moderate:	Moderate:



TABLE 12--RECREATIONAL DEVELOPMENT--Continued

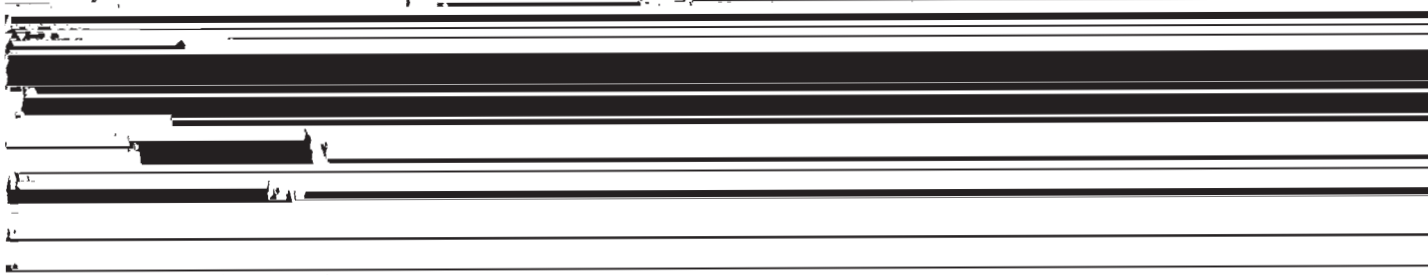
Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
PdC:1 Montauk-----	Moderate: slope, large stones, percs slowly.	Moderate: slope.	Severe: slope.	Moderate: large stones.	Moderate: slope, large stones.
PeC1: Paxton-----	Severe: large stones.	Moderate: large stones, slope.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
Montauk-----	Severe: large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
PeD1: Paxton-----	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.	Severe: large stones.	Severe: slope, large stones.
Montauk-----	Severe: slope, large stones.	Severe: slope.	Severe: slope, large stones.	Severe: large stones.	Severe: slope, large stones.
PnA, PnB----- Penwood	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Moderate: too sandy.	Severe: too sandy, droughty.
Pr1. Pits					
Ps----- Podunk	Severe: floods.	Severe: floods.	Severe: floods.	Moderate: floods.	Severe: floods.
Rb----- Raypol	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Rp1: Rock outcrop.					
Hollis-----	Severe: slope, large stones.	Severe: slope.	Severe: slope, depth to rock, large stones.	Severe: large stones.	Severe: slope, depth to rock.
Ru----- Rumney	Severe: floods,	Severe: wetness,	Severe: wetness,	Severe: wetness,	Severe: floods,
					
Rv----- Rumney Variant	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: wetness, floods.	Severe: floods, wetness.
Sb----- Saco	Severe: floods, wetness.	Severe: wetness, floods.	Severe: floods, wetness.	Severe: wetness, floods.	Severe: floods, wetness.
Sc----- Scarboro	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
SdA-----	Slight	Slight	Moderate	Slight	Slight



TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
Ur <sup>1</sup> . Urban land					
Wd----- Walpole	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
We, Wh----- Westbrook	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess humus.	Severe: wetness, floods, excess salt.
WkB----- Wethersfield	Moderate: percs slowly.	Slight-----	Moderate: slope, percs slowly.	Slight-----	Slight.
WkC----- Wethersfield	Moderate: slope, percs slowly.	Moderate: slope.	Severe: slope.	Slight-----	Moderate: slope.
WkD----- Wethersfield	Severe: slope.	Severe: slope.	Severe: slope.	Moderate: slope.	Severe: slope.
WmB----- Wethersfield	Moderate: percs slowly, large stones.	Slight-----	Moderate: slope, percs slowly, large stones.	Moderate: large stones.	Moderate: large stones.
WmC----- Wethersfield	Moderate: slope, percs slowly, large stones.	Moderate: slope.	Severe: slope.	Moderate: large stones.	Moderate: slope, large stones.
WnC----- Wethersfield	Severe: large stones.	Moderate: slope, large stones.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones.
Wr----- Wilbraham	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.	Severe: wetness.
Wt----- Wilbraham	Severe: wetness, large stones.	Severe: wetness.	Severe: wetness, large stones.	Severe: wetness, large stones.	Severe: wetness, large stones.
WvA, WvB----- Windsor	Moderate: too sandy.	Moderate: too sandy.	Severe: too sandy.	Moderate: too sandy.	Severe: too sandy, droughty.
WxA----- Woodbridge	Moderate: percs slowly.	Slight-----	Moderate: percs slowly, wetness.	Slight-----	Slight.
WxB----- Woodbridge	Moderate: percs slowly.	Slight-----	Moderate: percs slowly, slope, wetness.	Slight-----	Slight.
WyA----- Woodbridge	Moderate: percs slowly.	Slight-----	Moderate: percs slowly, wetness.	Moderate: large stones.	Moderate: large stones.
WyB----- Woodbridge	Moderate: percs slowly.	Slight-----	Moderate: percs slowly, slope, wetness.	Moderate: large stones.	Moderate: large stones.
WzA----- Woodbridge	Severe: large stones.	Moderate: large stones.	Severe: large stones.	Severe: large stones.	Severe: large stones.

See footnote at end of the table.

TABLE 12.--RECREATIONAL DEVELOPMENT--Continued

Soil name and map symbol	Camp areas	Picnic areas	Playgrounds	Paths and trails	Golf fairways
WzC----- Woodbridge	Severe: large stones.	Moderate: large stones, slope.	Severe: slope, large stones.	Severe: large stones.	Severe: large stones, slope.
YaB----- Yalesville	Slight-----	Slight-----	Moderate: slope, depth to rock.	Slight-----	Moderate: depth to rock.
YaC----- Yalesville	Moderate: slope.	Moderate: slope.	Severe: slope.	Slight-----	Moderate: slope, depth to rock.

<sup>1</sup> See the description of the map unit for the composition and behavior characteristics of the entire unit.

[See text for definitions of "good," "fair," "poor," and "very poor." Absence of an entry indicates that the soil was not rated]

[illegible]

TABLE 13.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
CrC1: Hollis-----	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
CsB----- Cheshire	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
CsC----- Cheshire	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
CyC1: Cheshire-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Holyoke-----	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
EfA----- Ellington	Good	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
HfA, HfB----- Hartford	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.
HkC----- Hinckley	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
HME1: Hinckley-----	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Manchester-----	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
HpE1: Hollis-----	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Charlton-----	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
HrC1: Hollis-----	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
HSE1: Hollis-----	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
HuD1: Holyoke-----	Very poor.	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Cheshire-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
HyC1: Holyoke-----	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										

See footnote at end of table.

TABLE 13.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
HZE1: Holyoke-----	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Rock outcrop.										
LG1: Leicester-----	Very poor.	Very poor.	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
Ridgebury-----	Very poor.	Very poor.	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
Whitman-----	Very poor.	Very poor.	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.

Ludlow										
LpB----- Ludlow	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
LuB----- Ludlow	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
LvC----- Ludlow	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
MgA, MgC. Manchester	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
MyA, MyB----- Merrimac	Fair	Fair	Fair	Fair	Fair	Very poor.	Very poor.	Fair	Fair	Very poor.

TABLE 13.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba- ceous plants	Hardwood trees	Conif- erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
PdC <sup>1</sup> : Paxton-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
Montauk-----	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
PeC <sup>1</sup> , PeD <sup>1</sup> : Paxton-----	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Montauk-----	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
PnA, PnB----- Penwood	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Pr <sup>1</sup> . Pits										
Ps----- Podunk	Poor	Fair	Fair	Good	Good	Poor	Poor	Fair	Good	Poor.
Rb----- Raypol	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
Rp <sup>1</sup> : Rock outcrop.										
Hollis-----	Very poor.	Very poor.	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
Ru----- Rumney	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
Rv----- Rumney Variant	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
Sb----- Saco	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
Sc----- Scarboro	Very poor.	Poor	Poor	Poor	Poor	Good	Good	Poor	Poor	Good.
SgA----- Sudbury	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
St----- Suncook	Poor	Fair	Fair	Poor	Poor	Very poor.	Very poor.	Fair	Poor	Very poor.
UD <sup>1</sup> : Udorthents.										
Urban land.										
Ur <sup>1</sup> . Urban land										
Wd----- Walpole	Poor	Fair	Fair	Fair	Fair	Good	Good	Fair	Fair	Good.
We, Wh----- Westbrook	Very poor.	Very poor.	Very poor.	Very poor.	Very poor.	Good	Good	Very poor.	Very poor.	Good.
WkB----- Wethersfield	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.

See footnote at end of table.

TABLE 13.--WILDLIFE HABITAT POTENTIALS--Continued

Soil name and map symbol	Potential for habitat elements							Potential as habitat for--		
	Grain and seed crops	Grasses and legumes	Wild herba-ceous plants	Hardwood trees	Conif-erous plants	Wetland plants	Shallow water areas	Openland wildlife	Woodland wildlife	Wetland wildlife
WkC----- Wethersfield	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.
WkD----- Wethersfield	Poor	Fair	Good	Good	Good	Very poor.	Very poor.	Fair	Good	Very poor.
WmB----- Wethersfield	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
WmC----- Wethersfield	Very poor.	Poor	Good	Good	Good	Very poor.	Very poor.	Poor	Good	Very poor.
WnC----- Wethersfield	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
Wr----- Wilbraham	Poor	Fair	Fair	Fair	Fair	Good	Fair	Fair	Fair	Fair.
Wt----- Wilbraham	Very poor.	Very poor.	Fair	Fair	Fair	Good	Fair	Poor	Fair	Fair.
WvA, WvB----- Windsor	Poor	Poor	Fair	Poor	Poor	Very poor.	Very poor.	Poor	Poor	Very poor.
WxA----- Woodbridge	Fair	Good	Good	Good	Good	Poor	Poor	Good	Good	Poor.
WxB----- Woodbridge	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
WyA----- Woodbridge	Very poor.	Poor	Good	Good	Good	Poor	Poor	Poor	Good	Poor.
WyB----- Woodbridge	Very poor.	Poor	Good	Good	Good	Poor	Very poor.	Poor	Good	Very poor.
WzA----- Woodbridge	Very poor.	Very poor.	Good	Good	Good	Poor	Poor	Poor	Fair	Poor.
WzC----- Woodbridge	Very poor.	Very poor.	Good	Good	Good	Very poor.	Very poor.	Poor	Fair	Very poor.
YaB----- Yalesville	Fair	Good	Good	Good	Good	Poor	Very poor.	Good	Good	Very poor.
YaC----- Yalesville	Fair	Good	Good	Good	Good	Very poor.	Very poor.	Good	Good	Very poor.

See description of the map unit for composition and behavior characteristics of the entire map unit.

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS

[The symbol &lt; means less than; &gt; means more than. Absence of an entry indicates that data were not estimated]

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	<u>In</u>				<u>Pct</u>					<u>Pct</u>	
Aa----- Adrian	0-24 24-60	Muck----- Sand, loamy sand, gravelly loamy sand.	Pt SP, SM	A-8 A-2, A-3, A-1	--- 0	--- 80-100	--- 60-100	--- 35-75	--- 0-30	--- ---	--- NP <sup>1</sup>
AfA, AfB----- Agawam	0-8 8-14 14-24 24-60	Fine sandy loam Fine sandy loam, very fine sandy loam, loam. Fine sandy loam Stratified fine sand to very gravelly loamy sand.	SM, ML SM, ML SM, SP-SM SM, SP-SM	A-4 A-4 A-2, A-3, A-4 A-1, A-2, A-3	0 0 0 0-5	95-100 95-100 90-100 70-100	90-100 85-100 85-100 30-100	85-100 80-100 75-95 15-80	40-65 40-65 5-45 5-35	--- --- --- ---	--- --- --- ---
Ba <sup>2</sup> : Beaches. Udipsamments.											
BcA----- Berlin	0-12 12-30 30-60	Silt loam----- Silty clay loam, silt loam, silty clay. Silty clay, clay, silty clay loam.	ML, CL, OL ML, CL, CL-ML CL, ML, CL-ML	A-4, A-6, A-7 A-4, A-6, A-7 A-6, A-7	0 0 0	90-100 90-100 100	85-100 85-100 100	80-100 80-100 100	65-90 65-90 90-100	30-50 15-40 25-45	4-15 4-18 5-20
BoA, BoB, BoC----- Branford	0-6 6-23 23-60	Silt loam----- Silt loam, very fine sandy loam, fine sandy loam. Stratified sand to gravel.	ML, SM ML, SM GP, SP	A-4 A-4, A-2 A-1, A-3	0 0 0-25	95-100 80-100 35-95	70-95 60-95 25-80	60-90 40-90 10-55	40-80 30-80 0-10	<25 <25 ---	NP-5 NP-3 NP
CbB <sup>2</sup> : Canton-----	0-19 19-60	Fine sandy loam, very fine sandy loam. Gravelly loamy fine sand, gravelly loamy coarse sand, gravelly loamy sand.	SM, ML SP, SM, SP-SM	A-2, A-4 A-1, A-2 A-3	0-15 5-30	80-100 75-95	65-95 50-85	45-90 20-80	25-70 5-25	<12 <10	NP NP
Charlton-----	0-10 10-32 32-60	Fine sandy loam Fine sandy loam, gravelly sandy loam, gravelly loam. Gravelly sandy loam, gravelly fine sandy loam, sandy loam.	SM, ML SM, ML SM	A-2, A-4 A-2, A-4 A-2, A-4	5-10 5-15 5-15	75-95 65-90 60-90	70-90 60-90 60-85	60-85 50-80 50-70	30-70 20-65 20-45	--- --- ---	NP-5 NP-3 NP

See footnotes at end of table.



TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches  Pct	Percentage passing sieve number--				Liquid limit  Pct	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
CcB2, CcC2: Canton-----	0-2	Very stony fine	SM, ML	A-2, A-4	5-25	80-100	65-95	45-90	25-70	<18	NP

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
CrC2: Hollis-----	0-3	Fine sandy loam	SM, ML	A-2, A-4	0-15	75-100	65-95	40-85	25-70	<20	NP-3
	3-14	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	75-95	65-95	40-80	20-65	---	NP
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
CsB, CsC----- Cheshire	0-8	Silt loam-----	SM, ML	A-2, A-4	0-10	85-95	80-95	60-85	30-70	<25	NP-5
	8-26	Fine sandy loam,	SM, ML	A-2, A-4	0-10	85-95	80-95	55-85	25-70	<25	NP-3
	26-60	loam. Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-10	75-90	70-90	40-55	15-45	---	NP
CyC2: Cheshire-----	0-8	Very stony silt loam.	SM, ML	A-2, A-4	10-25	85-95	80-95	60-85	30-70	<25	NP-5
	8-26	Fine sandy loam, loam, silt loam.	SM, ML	A-2, A-4	5-20	85-95	80-95	55-85	25-70	<25	NP-3
	26-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-10	75-90	70-90	40-65	15-45	---	NP
Holyoke-----	0-4	Silt loam-----	ML, SM, CL-ML	A-4	0-10	75-95	55-90	45-85	25-75	<25	NP-5
	4-13	Silt loam, loam, gravelly fine sandy loam.	ML, SM	A-4	0-10	75-95	55-90	45-85	25-75	<25	NP-3
	13	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
EfA----- Ellington	0-6	Fine sandy loam	ML, SM	A-4	0	95-100	75-95	55-95	40-95	<35	NP-7
	6-29	Silt loam, loam, fine sandy loam.	ML, SM	A-2, A-4	0	75-100	50-95	35-95	20-85	<25	NP-5
	29-60	Gravelly sand, very gravelly sand, loamy sand.	SP, GP	A-1	5-30	30-70	20-60	15-45	0-10	---	NP
HfA, HfB----- Hartford	0-9	Sandy loam-----	SM, ML	A-2, A-4	0-5	85-100	75-95	50-90	25-60	<25	NP-3
	9-24	Sandy loam, loamy sand, gravelly sandy loam.	SM, SP-SM	A-2	0-10	65-95	65-90	40-60	10-35	---	NP
	24-60	Gravelly sand, very gravelly sand.	SP, GP	A-1	5-30	40-65	35-55	5-45	0-10	---	NP
HkC----- Hinckley	0-8	Gravelly sandy loam.	SM, ML	A-1, A-2, A-4	0-20	60-95	40-85	20-80	6-55	---	NP
	8-20	Gravelly loamy sand, loamy fine sand, gravelly loamy coarse sand.	SM, GM, GP-GM	A-1, A-2	0-20	50-95	30-85	15-70	2-30	---	NP
	20-60	Stratified gravelly loamy	SP, SP-SM	A-1	0-45	40-75	20-50	10-40	0-20	---	NP

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches Pct	Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
HME <sup>2</sup> : Hinckley-----	0-8	Gravelly sandy loam.	SM, ML	A-1, A-2, A-4	0-20	60-95	40-85	20-80	6-55	---	NP
	8-20	Gravelly loamy sand, loamy fine sand, gravelly loamy coarse sand.	SM, GM, GP-GM	A-1, A-2	0-20	50-95	30-85	15-70	2-30	---	NP
	20-60	Stratified gravelly loamy fine sand to very cobbly coarse sand.	SP, SP-SM, GP, GP-GM	A-1	0-45	40-75	20-50	10-40	0-20	---	NP
Manchester-----	0-9	Gravelly sandy loam.	SM	A-1, A-2, A-4	0-20	70-95	60-75	30-60	15-40	---	NP
	9-22	Gravelly sandy loam, gravelly loamy sand.	SM, GM	A-1, A-2	0-20	50-90	50-70	25-50	10-30	---	NP
	22-60	Stratified sand to gravel.	SP, GW	A-1	5-30	30-70	20-55	10-35	0-10	---	NP
HpE <sup>2</sup> : Hollis-----	0-3	Fine sandy loam	SM, ML	A-2, A-4	0-15	75-100	65-95	40-85	25-70	<20	NP-3
	3-14	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	75-95	65-95	40-80	20-65	---	NP
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Charlton-----	0-10	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	15-35	75-95	70-90	60-85	30-70	---	NP-5
	10-32	Fine sandy loam, gravelly sandy loam, gravelly loam.	SM, ML	A-2, A-4	5-15	65-90	60-90	50-80	20-65	---	NP-3
	32-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	5-15	60-90	60-85	50-70	20-45	---	NP
HrC <sup>2</sup> , HSE <sup>2</sup> : Hollis-----	0-3	Fine sandy loam	SM, ML	A-2, A-4	0-15	75-100	65-95	40-85	25-70	<20	NP-3
	3-14	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	75-95	65-95	40-80	20-65	---	NP
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
HuD <sup>2</sup> : Holyoke-----	0-4	Silt loam-----	ML, SM, CL-ML	A-4	0-10	75-95	55-90	45-85	25-75	<25	NP-5
	4-13	Silt loam, loam,	ML, SM	A-4	0-10	75-95	55-90	45-85	25-75	<25	NP-3

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth <u>In</u>	USDA texture	Unified	AASHTO	ments > 3 inches Pct	sieve number--				Liquid limit Pct	Plas- ticity index
						4	10	40	200		
HuD2: Cheshire-----	0-8	Very stony silt loam.	SM, ML	A-2, A-4	10-25	85-95	80-95	60-85	30-70	<25	NP-5
	8-26	Fine sandy loam, loam, silt loam.	SM, ML	A-2, A-4	5-20	85-95	80-95	55-85	25-70	<25	NP-3
	26-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-10	75-90	70-90	40-65	15-45	---	NP
HyC2, HZE2: Holyoke-----	0-4	Silt loam-----	ML, SM, CL-ML	A-4	0-10	75-95	55-90	45-85	25-75	<25	NP-5
	4-13	Silt loam, loam, gravelly fine sandy loam.	ML, SM	A-4	0-10	75-95	55-90	45-85	25-75	<25	NP-3
	13	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Rock outcrop.											
LG2: Leicester-----	0-7	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	5-25	70-95	70-90	45-85	25-70	<25	NP-5
	7-33	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4	5-10	70-90	60-85	40-75	20-50	---	NP
	33-60	Fine sandy loam, gravelly fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	5-15	65-90	55-85	35-70	20-45	---	NP
Ridgebury-----	0-7	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	10-30	70-100	60-95	45-85	25-65	---	NP
	7-24	Sandy loam, gravelly loam, fine sandy loam	SM, GM, ML	A-1, A-2, A-4	10-30	65-95	55-90	40-80	20-60	---	NP
	24-60	Sandy loam, gravelly loam.	SM, GM, ML	A-1, A-2, A-4	10-30	65-95	55-90	35-80	20-60	---	NP
Whitman-----	0-5	Extremely stony	SM, ML	A-2, A-4	5-25	85-95	70-90	55-80	25-75	---	NP

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
LuB----- Ludlow	0-8	Very stony silt loam.	ML	A-4	2-10	80-95	70-90	65-85	55-70	<45	NP-8
	8-26	Loam, silt loam, gravelly loam.	ML	A-4	0-10	80-95	70-90	65-85	55-70	<45	NP-7
	26-60	Loam, gravelly fine sandy loam, silt loam.	ML	A-4	5-15	70-90	65-85	60-80	55-65	<35	NP-7
LvC----- Ludlow	0-8	Extremely stony silt loam.	ML	A-4	0-10	80-95	70-90	65-85	55-70	<45	NP-8
	8-26	Loam, silt loam, gravelly loam.	ML	A-4	0-10	80-95	70-90	65-85	55-70	<45	NP-7
	26-60	Loam, gravelly fine sandy loam, silt loam.	ML	A-4	5-15	70-90	65-85	60-80	55-65	<35	NP-7
MgA, MgC----- Manchester	0-9	Gravelly sandy loam.	SM	A-1, A-2, A-4	0-20	70-95	60-75	30-60	15-40	---	NP
	9-22	Gravelly sandy loam, gravelly loamy sand.	SM, GM	A-1, A-2	0-20	50-90	50-70	25-50	10-30	---	NP
	22-60	Stratified sand to gravel.	SP, GW	A-1	5-30	30-70	20-55	10-35	0-10	---	NP
MyA, MyB----- Merrimac	0-9	Sandy loam-----	SM, ML	A-2, A-4	0	85-95	70-90	40-85	20-55	<20	NP
	9-18	Sandy loam-----	SM	A-2	0	75-95	70-90	40-60	20-35	<25	NP
	18-22	Gravelly loamy sand, sandy loam, gravelly sandy loam.	SP, SP-SM, GP, GP-GM	A-1, A-2	0	65-95	55-90	30-60	0-35	<25	NP
	22-60	Stratified sand to very gravelly sand.	GP, SP, SP-SM, GP-GM	A-1	5-25	40-65	30-60	15-40	0-10	---	NP
NnA----- Ninigret	0-9	Fine sandy loam	SM, ML	A-4	0	95-100	90-100	70-95	40-65	<25	NP-3
	9-25	Fine sandy loam, sandy loam, silt loam.	SM	A-2, A-4	0	95-100	90-100	65-85	20-50	---	NP
	25-60	Loamy sand, sand, gravelly sand.	SP, SM, GM	A-1, A-2, A-3	0-10	60-100	45-100	25-75	0-30	---	NP
PbB <sup>2</sup> , PbC <sup>2</sup> PbD <sup>2</sup> : Paxton-----	0-10	Fine sandy loam	SM, ML	A-2, A-4	0-10	80-95	75-90	60-85	30-65	<30	NP-10
	10-32	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	0-15	70-90	65-90	55-85	25-65	<30	NP-10
	32-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	0-15	70-90	60-85	55-75	20-60	<30	NP-10
Montauk-----	0-15	Fine sandy loam	ML, SM	A-4, A-2	0	90-100	85-95	55-90	30-85	<20	NP-4
	15-31	Fine sandy loam, gravelly sandy loam.	SM, ML	A-2, A-4, A-1	0-5	80-100	70-95	40-90	20-80	<20	NP-4
	31-60	Sandy loam, fine sandy loam, gravelly loamy sand.	SM, SP-SM	A-2, A-1, A-4	0-5	65-100	55-95	30-80	10-50	<15	NP-2

See footnotes at end of table.

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas-ticity index
			Unified	AASHTO		4	10	40	200		
	<u>In</u>				<u>Pct</u>					<u>Pct</u>	
PdB <sup>2</sup> , PdC <sup>2</sup> : Paxton-----	0-10	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-20	80-95	75-90	60-85	30-65	<30	<10
	10-32	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	5-20	70-90	65-90	55-85	25-65	<30	<10
	32-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	70-90	60-85	55-75	20-60	<30	<10
PdB <sup>2</sup> , PdC <sup>2</sup> : Montauk-----	0-15	Very stony fine sandy loam.	SM, ML	A-1, A-2	2-6	80-90	65-75	40-70	20-55	<20	NP-4
PeC <sup>2</sup> , PeD <sup>2</sup> : Paxton-----	15-31	Fine sandy loam, gravelly sandy loam.	SM, ML	A-1, A-2, A-4	0-5	80-100	70-95	40-90	20-80	<20	NP-4
	31-60	Sandy loam, fine sandy loam, gravelly loamy sand.	SM	A-1, A-2, A-4	0-5	65-95	55-90	30-80	10-50	<15	NP-2
	0-10	Extremely stony fine sandy loam.	SM, ML	A-2, A-4	10-25	80-90	70-85	60-80	30-65	<30	<10
Montauk-----	10-32	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	5-20	70-90	65-90	55-85	25-65	<30	<10
	32-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SM-SC	A-2, A-4	5-15	70-90	60-85	55-75	20-60	<30	<10
	0-15	Extremely stony fine sandy loam.	SM, ML	A-1, A-2, A-4	5-25	70-100	55-75	35-70	20-55	<20	NP-4
PnA, PnB: Penwood-----	15-31	Fine sandy loam, gravelly sandy loam.	SM, ML	A-1, A-2, A-4	0-5	80-100	70-95	40-90	20-80	<20	NP-4
	31-60	Sandy loam, fine sandy loam, gravelly loamy sand.	SM	A-1, A-2, A-4	0-5	65-95	55-90	30-80	10-50	<15	NP-2
	0-8	Loamy sand-----	SM	A-2	0	95-100	90-100	75-95	20-30	---	NP
Pr <sup>2</sup> . Pits-----	8-28	Loamy sand, loamy fine sand, sand.	SP, SM	A-2, A-3	0	95-100	90-100	65-95	0-30	---	NP
	28-60	Sand, fine sand	SP, SM	A-2, A-3	0	90-100	85-100	60-90	0-20	---	NP
	0-11	Fine sandy loam	SM, ML	A-2, A-4	0	100	95-100	60-100	30-75	---	NP
Ps----- Podunk-----	11-32	Fine sandy loam, sandy loam.	SM	A-2, A-4	0	100	95-100	60-85	30-50	---	NP
	32-60	Loamy fine sand, loamy sand, coarse sand.	SP-SM, SM	A-2, A-1	0	90-100	80-100	40-85	5-25	---	NP
Rb----- Raypol-----	0-10	Silt loam-----	ML	A-4	0	90-100	85-100	75-100	65-90	<30	NP-7
	10-24	Silt loam. fine sandy loam. loam.	ML	A-4	0	90-100	85-100	75-100	65-90	<25	NP-5

TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	<u>In</u>				<u>Pct</u>					<u>Pct</u>	
Rp2: Rock outcrop.											
Hollis-----	0-3	Fine sandy loam	SM, ML	A-2, A-4	0-15	75-100	65-95	40-85	25-70	<20	NP-3
	3-14	Fine sandy loam, sandy loam, gravelly fine sandy loam.	SM, ML	A-2, A-4	0-15	75-95	65-95	40-80	20-65	---	NP
	14	Unweathered bedrock.	---	---	---	---	---	---	---	---	---
Ru----- Rumney	0-19	Fine sandy loam	SM, ML	A-2, A-4	0	100	85-100	50-85	25-55	<40	NP
	19-31	Fine sandy loam, sandy loam, loam.	SM, ML	A-2, A-4	0	100	85-100	50-95	25-75	<40	NP
	31-60	Stratified loamy sand to gravelly sand.	SP, SM	A-1, A-2, A-3	0	80-100	55-95	25-70	5-30	<40	NP
Rv----- Rumney Variant	0-12	Silt loam-----	ML	A-4	0-3	95-100	95-100	90-100	65-90	<30	NP-5
	12-28	Silt loam-----	ML	A-4	0-3	95-100	95-100	85-100	65-95	<30	NP-5
	28-60	Silt loam, very fine sandy loam, loam.	ML	A-4	0-5	95-100	95-100	80-100	55-95	<30	NP-5
Sb----- Saco	0-6	Mucky silt loam	ML, OL	A-4	0	100	100	95-100	70-95	<40	NP-10
	6-18	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	95-100	55-95	<40	NP-10
	18-60	Silt loam, very fine sandy loam.	ML	A-4	0	100	100	90-100	50-95	<25	NP-5
Sc----- Scarboro	0-14	Mucky loamy fine sand.	SM	A-2, A-4	0	90-100	80-100	65-95	25-50	---	NP
	14-60	Loamy sand, sand	SM, SP	A-1, A-2	0	85-100	70-100	45-90	0-25	---	NP
SgA----- Sudbury	0-9	Sandy loam-----	SM, ML	A-2, A-4	0-5	85-100	60-100	40-90	20-55	<25	NP
	9-18	Sandy loam, fine sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-5	85-100	60-100	40-80	20-50	<25	NP
	18-36	Gravelly coarse sand, loamy sand, sandy loam.	SM, SP-SM	A-1, A-2, A-3	0-5	70-100	60-100	30-70	5-35	<25	NP
	36-60	Stratified sand and gravel.	SP, SP-SM, GP, GP-GM	A-1	10-40	35-70	25-65	15-45	0-10	---	NP
St----- Suncook	0-10	Loamy sand	SM	A-2	0	95-100	85-100	65-70	15-35	---	NP
	10-60	Stratified loamy fine sand to coarse sand.	SP, SM	A-1, A-2, A-3	0	60-100	45-100	20-95	0-35	---	NP
UD2: Udorthents.											
Urban land.											
Ur2. Urban land											

See footnotes at end of table.



TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag-ments > 3 inches Pct	Percentage passing sieve number--				Liquid limit Pct	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
Wd----- Walpole	0-10	Sandy loam-----	SM, OL	A-2, A-4	0-5	90-100	85-100	70-100	30-50	<25	NP-3
	10-23	Fine sandy loam, sandy loam, gravelly sandy loam.	SM	A-2, A-4	0-5	85-100	60-100	40-95	25-50	---	NP
	23-60	Gravelly loamy sand, gravelly sand, sand.	SP, SM, GP	A-1, A-2, A-3	0-20	55-100	50-100	25-90	0-25	---	NP
We, Wh----- Westbrook	0-48	Mucky peat-----	Pt	A-8	0	---	---	---	---	---	NP
	48-99	Silt loam, very	ML,	A-4	0	95-100	95-100	95-100	85-100	<25	NP-5
WkB, WkC, WkD----- Wethersfield		fine sandy loam, silt.	CL-ML, OL								
	0-12	Loam-----	ML	A-4, A-5	0-5	85-95	80-95	65-85	55-70	<45	NP-8
	12-26	Loam, silt loam, fine sandy loam.	ML	A-4, A-5	0-5	85-95	80-95	65-85	55-70	<45	NP-7
WmB, WmC----- Wethersfield	26-60	Gravelly loam, loam, gravelly fine sandy loam.	SM, ML	A-4	0-10	75-90	70-90	55-80	40-65	<35	NP-7
	0-12	Very stony loam	ML	A-4, A-5	10-20	85-95	80-95	65-85	55-70	<45	NP-8
	12-26	Loam, silt loam, fine sandy loam.	ML	A-4, A-5	5-15	85-95	80-95	65-85	55-70	<45	NP-7
WnC----- Wethersfield	26-60	Loam, gravelly loam, gravelly fine sandy loam.	SM, ML	A-4	0-10	75-90	70-90	55-80	40-65	<35	NP-7
	0-12	Extremely stony loam.	ML	A-4, A-5	10-25	85-95	80-95	65-85	55-70	<45	NP-8
	12-26	Loam, silt loam, fine sandy loam.	ML	A-4, A-5	5-15	85-95	80-95	65-85	55-70	<45	NP-7
Wr----- Wilbraham	26-60	Loam, gravelly loam, gravelly fine sandy loam.	SM, ML	A-4	0-10	75-90	70-90	55-80	40-65	<35	NP-7
	0-4	Silt loam-----	ML	A-4, A-5	0-5	80-95	70-95	65-85	55-70	<45	NP-8
	4-20	Loam, silt loam, gravelly loam.	ML	A-4, A-5	0-5	80-95	70-95	65-85	55-70	<45	NP-7
Wt----- Wilbraham	20-60	Loam, gravelly loam, silt loam.	ML	A-4	0-10	70-90	65-85	60-80	55-65	<35	NP-7
	0-4	Extremely stony silt loam.	ML	A-4, A-5	5-15	80-95	70-95	65-85	55-70	<45	NP-8
	4-20	Loam, silt loam, gravelly loam.	ML	A-4, A-5	0-10	80-95	70-95	65-85	55-70	<45	NP-7
WvA, WvB----- Windsor	20-60	Loam, gravelly loam, silt loam.	ML	A-4	0-10	70-90	65-85	60-80	55-65	<35	NP-7
	0-7	Loamy sand-----	SM	A-2	0	95-100	85-100	35-85	20-35	---	NP
	7-32	Loamy sand, loamy fine sand, sand.	SW-SM, SM	A-2, A-3	0	95-100	85-100	45-95	10-30	---	NP
	32-60	Sand, fine sand, loamy sand.	SP-SM, SM	A-2, A-3	0	90-100	75-100	40-95	5-20	---	NP



TABLE 14.--ENGINEERING PROPERTIES AND CLASSIFICATIONS--Continued

Soil name and map symbol	Depth	USDA texture	Classification		Frag- ments > 3 inches	Percentage passing sieve number--				Liquid limit	Plas- ticity index
			Unified	AASHTO		4	10	40	200		
	In				Pct					Pct	
WxA, WxB----- Woodbridge	0-8	Fine sandy loam	SM, ML	A-2, A-4	0-10	85-95	70-90	60-85	30-65	<30	NP-10
	8-28	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC	A-2, A-4	0-15	75-95	65-90	55-85	25-60	<30	NP-10
	28-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC	A-2, A-4	5-15	70-90	60-90	50-85	25-60	<30	NP-10
WyA, WyB----- Woodbridge	0-8	Very stony fine sandy loam.	SM, ML	A-2, A-4	5-10	85-95	70-90	60-85	30-65	<30	NP-10
	8-28	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC, SM-SC	A-2, A-4	5-10	75-95	65-90	55-85	25-60	<30	NP-10
	28-60	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC, SM-SC	A-2, A-4	5-15	70-90	60-90	50-85	25-60	<30	NP-10
WzA, WzC----- Woodbridge	0-8	Extremely stony sandy loam.	SM, ML	A-2, A-4	5-15	85-95	70-90	60-85	30-65	<30	NP-10
	8-28	Fine sandy loam, loam, gravelly sandy loam.	SM, ML, SC, SM-SC	A-2, A-4	5-10	75-95	65-90	55-85	25-60	<30	NP-10
	28-60	Fine sandy loam, loam, gravelly fine sandy loam.	SM, ML, SC, SM-SC	A-2, A-4	5-15	70-90	60-90	50-85	25-60	<30	NP-10
YaB, YaC----- Yalesville	0-10	Fine sandy loam	SM, ML	A-2, A-4	0-5	85-95	75-95	50-85	30-70	---	NP
	10-20	Fine sandy loam, silt loam, gravelly fine sandy loam.	SM, ML, GM	A-2, A-4	0-10	60-95	50-95	35-85	25-70	---	NP
	20-30	Fine sandy loam, loam, gravelly sandy loam.	SM, GM	A-2, A-4	0-20	50-90	40-80	25-65	15-45	---	NP
	30	Unweathered bedrock.	---	---	---	---	---	---	---	---	---

1 NP means nonplastic.

2. Soil classification is based on the Unified Soil Classification System and the AASHTO Soil Classification System.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS

[The symbol < means less than; > means more than. Entries under "erosion factors-(T)" apply to the entire profile. Entries under "Wind erodibility group" apply only to the surface layer. Absence of an entry indicates that data were not available or were not estimated]

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors	
						K	T
	In	In/hr	In/in	pH			
Aa----- Adrian	0-24 24-60	0.2-6.0 6.0-20	0.35-0.45 0.03-0.08	5.1-7.3 6.1-7.3	----- Low-----	0.10 ---	5
AfA, AfB----- Agawam	0-8 8-14 14-24 24-60	2.0-6.0 2.0-6.0 2.0-20 6.0-20	0.13-0.25 0.11-0.21 0.11-0.18 0.01-0.09	4.5-6.0 4.5-6.0 4.5-6.0 4.5-6.0	Low----- Low----- Low----- Low-----	0.28 0.43 0.43 0.17	3
Ba1: Beaches.  Udipsamments.							
BcA----- Berlin	0-12 12-30 30-60	0.2-2.0 0.06-2.0 <0.06	0.14-0.30 0.11-0.26 0.09-0.18	5.1-6.0 5.1-6.0 5.1-7.3	Low----- Low----- Low-----	0.49 0.43 0.28	3
BoA, BoB, BoC----- Branford	0-6 6-23 23-60	0.6-6.0 0.6-6.0 >6.0	0.11-0.28 0.11-0.24 0.01-0.06	4.5-6.0 4.5-6.0 4.5-6.0	Low----- Low----- Low-----	0.24 0.43 0.17	3
CbB1: Canton-----	0-19 19-60	2.0-6.0 6.0-20.0	0.13-0.20 0.13-0.20	3.6-6.0 3.6-6.0	Low----- Low-----	0.24 0.37	3
Charlton-----	0-10 10-32 32-60	0.6-6.0 0.6-6.0 0.6-6.0	0.08-0.23 0.05-0.20 0.05-0.16	4.5-6.0 4.5-6.0 4.5-6.0	Low----- Low----- Low-----	0.20 0.43 0.43	3
CcB1, CcC1: Canton-----	0-2 2-19 19-60	2.0-6.0 2.0-6.0 6.0-20	0.13-0.20 0.13-0.20 0.04-0.08	3.6-6.0 3.6-6.0 3.6-6.0	Low----- Low----- Low-----	0.24 0.37 0.17	3
Charlton-----	0-10 10-32 32-60	0.6-6.0 0.6-6.0 0.6-6.0	0.08-0.23 0.05-0.20 0.05-0.16	4.5-6.0 4.5-6.0 4.5-6.0	Low----- Low----- Low-----	0.17 0.43 0.43	3
CdC1, CdD1: Canton-----	0-2 2-19 19-60	2.0-6.0 2.0-6.0 6.0-20	0.13-0.17 0.13-0.20 0.04-0.08	3.6-6.0 3.6-6.0 3.6-6.0	Low----- Low----- Low-----	0.24 0.37 0.17	3
Charlton-----	0-10 10-32 32-60	0.6-6.0 0.6-6.0 0.6-6.0	0.05-0.15 0.05-0.20 0.05-0.16	4.5-6.0 4.5-6.0 4.5-6.0	Low----- Low----- Low-----	0.17 0.43 0.43	3
Ce----- Carlisle	0-60	0.6-6.0	0.35-0.45	4.5-6.0	-----	---	---
CrC1: Charlton-----	0-10 10-32 32-60	0.6-6.0 0.6-6.0 0.6-6.0	0.08-0.23 0.05-0.20 0.05-0.16	4.5-6.0 4.5-6.0 4.5-6.0	Low----- Low----- Low-----	0.17 0.43 0.43	3
Hollis-----	0-3 3-14 14	0.6-6.0 0.6-6.0 ---	0.10-0.21 0.06-0.18 ---	4.5-6.0 4.5-6.0 ---	Low----- Low----- -----	0.20 0.43 ---	2
CsB, CsC----- Cheshire	0-8 8-26 26-60	0.6-6.0 0.6-6.0 0.6-6.0	0.11-0.28 0.08-0.24 0.05-0.15	4.5-6.0 4.5-6.0 4.5-6.0	Low----- Low----- Low-----	0.20 0.43 0.43	3

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors	
						K	T
	In	In/hr	In/in	pH			
CyC1:							
Cheshire-----	0-8	0.6-6.0	0.11-0.28	4.5-6.0	Low-----	0.20	3
	8-26	0.6-6.0	0.08-0.24	4.5-6.0	Low-----	0.43	
	26-60	0.6-6.0	0.05-0.15	4.5-6.0	Low-----	0.43	
Holyoke-----	0-4	0.6-2.0	0.12-0.22	3.6-6.0	Low-----	0.24	2
	4-13	0.6-2.0	0.11-0.22	3.6-6.0	Low-----	0.43	
	13	---	---	---	-----	---	
EfA-----	0-6	0.6-2.0	0.15-0.22	4.5-6.0	Low-----	0.24	3
	6-20	0.6-2.0	0.12-0.22	4.5-6.0	Low-----	0.64	

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors	
						K	T
	In	In/hr	In/in	pH			
LG <sup>1</sup> :							
Ridgebury-----	0-7	0.6-6.0	0.06-0.24	4.5-6.0	Low-----	0.24	---
	7-24	0.6-6.0	0.04-0.20	4.5-6.0	Low-----	0.24	
	24-60	<0.2	---	4.5-6.0	Low-----	0.24	
Whitman-----	0-5	0.6-6.0	0.08-0.28	4.5-6.0	Low-----	0.24	3
	5-22	0.6-6.0	0.05-0.20	4.5-6.0	Low-----	0.24	
	22-60	<0.2	---	4.5-6.0	Low-----	0.24	
LpA, LpB-----	0-8	0.6-2.0	0.11-0.28	4.5-6.0	Low-----	0.24	3
Ludlow	8-26	0.6-2.0	0.09-0.24	4.5-6.0	Low-----	0.43	
	26-60	<0.2	0.08-0.12	4.5-6.5	Low-----	0.17	
LuB-----	0-8	0.6-2.0	0.11-0.28	4.5-6.0	Low-----	0.17	3
Ludlow	8-26	0.6-2.0	0.09-0.24	4.5-6.0	Low-----	0.43	
	26-60	<0.2	0.08-0.12	4.5-6.5	Low-----	0.17	
LvC-----	0-8	0.6-2.0	0.11-0.28	4.5-6.0	Low-----	0.17	---
Ludlow	8-26	0.6-2.0	0.09-0.24	4.5-6.0	Low-----	0.43	
	26-60	<0.2	0.08-0.12	4.5-6.5	Low-----	0.17	
MgA, MgC-----	0-9	6.0-20.0	0.03-0.20	4.5-6.0	Low-----	0.17	3
Manchester	9-22	6.0-20.0	0.01-0.11	4.5-6.0	Low-----	0.17	
	22-60	>20.0	0.01-0.06	4.5-6.0	Low-----	0.17	
MyA, MyB-----	0-9	2.0-20.0	0.18-0.19	3.6-6.0	Low-----	0.17	3
Merrimac	9-18	2.0-20.0	0.15-0.17	3.6-6.0	Low-----	0.24	
	18-22	2.0-20.0	0.03-0.15	3.6-6.0	Low-----	0.17	
	22-60	6.0-20.0	0.01-0.06	3.6-6.0	Low-----	0.17	
NnA-----	0-9	2.0-6.0	0.13-0.25	4.5-6.0	Low-----	0.28	3
Ninigret	9-25	2.0-6.0	0.06-0.18	4.5-6.0	Low-----	0.43	
	25-60	6.0-20	0.01-0.13	4.5-6.0	Low-----	0.17	
PbB <sup>1</sup> , PbC <sup>1</sup> , PbD <sup>1</sup> :							
Paxton-----	0-10	0.60-6.0	0.08-0.23	4.5-6.5	Low-----	0.24	3
	10-32	0.60-6.0	0.06-0.20	5.1-6.5	Low-----	0.43	
	32-60	<0.2	0.05-0.12	5.1-6.5	Low-----	0.17	
Montauk-----	0-15	0.6-6.0	0.16-0.20	3.6-6.0	Low-----	0.43	3
	15-31	0.6-6.0	0.10-0.16	3.6-6.0	Low-----	0.24	
	31-60	0.06-0.6	0.02-0.08	3.6-6.0	Low-----	0.20	
PdB <sup>1</sup> , PdC <sup>1</sup> :							
Paxton-----	0-10	0.60-6.0	0.08-0.23	5.1-6.5	Low-----	0.24	3
	10-32	0.60-6.0	0.06-0.20	5.1-6.5	Low-----	0.43	
	32-60	<0.2	0.05-0.12	5.1-6.5	Low-----	0.17	
Montauk-----	0-15	0.6-6.0	0.11-0.15	3.6-6.0	Low-----	0.28	3
	15-31	0.6-6.0	0.10-0.16	3.6-6.0	Low-----	0.28	
	31-60	0.06-0.6	0.02-0.16	3.6-6.0	Low-----	0.24	
PeC <sup>1</sup> , PeD <sup>1</sup> :							
Paxton-----	0-10	0.60-6.0	0.05-0.15	5.1-6.5	Low-----	0.24	3
	10-32	0.60-6.0	0.06-0.20	5.1-6.5	Low-----	0.43	
	32-60	<0.2	0.05-0.12	5.1-6.5	Low-----	0.17	
Montauk-----	0-15	0.6-6.0	0.11-0.15	3.6-6.0	Low-----	0.28	3
	15-31	0.6-6.0	0.10-0.16	3.6-6.0	Low-----	0.28	
	31-60	0.06-0.6	0.02-0.16	3.6-6.0	Low-----	0.24	
PnA, PnB-----	0-8	6.0-20	0.08-0.15	4.5-6.5	Low-----	0.17	5
Penwood	8-28	6.0-20	0.02-0.13	4.5-6.5	Low-----	0.17	
	28-60	6.0-20	0.01-0.08	4.5-6.5	Low-----	0.17	
Pr <sup>1</sup> .							
Pits							

See footnote at end of table.

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors	
						K	T
	In	In/hr	In/in	pH			
Ps----- Podunk	0-11 11-32 32-60	2.0-20 2.0-20 2.0-20	0.11-0.24 0.09-0.18 0.01-0.13	4.5-6.5 4.5-6.5 4.5-6.5	Low----- Low----- Low-----	--- --- ---	---
Rb----- Raypol	0-10 10-24 24-60	0.6-2.0 0.6-2.0 >6.0	0.15-0.28 0.15-0.26 0.06-0.10	4.5-5.5 4.5-5.5 5.1-6.5	Low----- Low----- Low-----	0.49 0.49 0.17	3
Rp <sup>1</sup> : Rock outcrop.							
Hollis-----	0-3 3-14 14	0.6-6.0 0.6-6.0 ---	0.10-0.21 0.06-0.18 ---	4.5-6.0 4.5-6.0 ---	Low----- Low----- -----	0.20 0.43 ---	2
Ru----- Rumney	0-19 19-31	2.0-6.0 2.0-6.0	0.11-0.20 0.11-0.19	4.5-6.5 4.5-6.5	Low----- Low-----	--- ---	---

Rv----- Rumney Variant	0-12 12-28 28-60	0.2-2.0 0.2-2.0 0.2-2.0	0.20-0.24 0.20-0.24 0.20-0.24	5.1-6.0 5.1-6.0 5.1-6.0	Low----- Low----- Low-----	0.43 0.43 0.43	4
Sb----- Saco	0-6 6-18 18-60	0.6-2.0 0.6-2.0 0.6-2.0	0.17-0.30 0.15-0.26 0.10-0.26	5.1-7.3 5.1-7.3 5.6-7.3	Low----- Low----- Low-----	--- 0.64 0.64	---
Sc----- Scarboro	0-14 14-60	>6.0 >6.0	0.07-0.23 0.01-0.13	4.5-6.0 4.5-6.0	Low----- Low-----	--- ---	---
SgA----- Sudbury	0-9 9-18 18-36 36-60	2.0-6.0 2.0-6.0 2.0-20 6.0-20	0.10-0.25 0.07-0.18 0.01-0.15 0.01-0.06	3.6-6.0 3.6-6.0 3.6-6.0 3.6-6.0	Low----- Low----- Low----- Low-----	0.17 0.17 0.17 0.17	3
St----- Suncook	0-10 10-60	>6.0 >6.0	0.07-0.15 0.01-0.13	4.5-6.5 4.5-6.5	Low----- Low-----	--- ---	---
UD <sup>1</sup> : Udorthents. Urban land.							
Ur <sup>1</sup> : Urban land							
Wd----- Walpole	0-10 10-23 23-60	2.0-6.0 2.0-6.0 >6.0	0.10-0.23 0.07-0.18 0.01-0.13	4.5-6.0 4.5-6.0 4.5-6.0	Low----- Low----- Low-----	0.20 0.28 0.17	3
We, Wh----- Westbrook	0-48 48-99	0.6-20 0.6-2.0	0.18-0.35 0.16-0.26	4.5-7.3 5.6-7.3	Low----- Low-----	--- 0.64	---
WkB, WkC, WkD----- Wethersfield	0-12 12-26 26-60	0.6-2.0 0.6-2.0 <0.2	0.11-0.28 0.09-0.24 0.08-0.12	4.5-5.5 4.5-5.5 4.5-6.0	Low----- Low----- Low-----	0.24 0.43 0.17	3
WmB, WmC----- Wethersfield	0-12 12-26 26-60	0.6-2.0 0.6-2.0 <0.2	0.11-0.28 0.09-0.24 0.08-0.12	4.5-5.5 4.5-5.5 4.5-6.0	Low----- Low----- Low-----	0.17 0.43 0.17	3

TABLE 15.--PHYSICAL AND CHEMICAL PROPERTIES OF SOILS--Continued

Soil name and map symbol	Depth	Permeability	Available water capacity	Soil reaction	Shrink-swell potential	Erosion factors	
						K	T
	In	In/hr	In/in	pH			
Wt----- Wilbraham	0-4	0.6-2.0	0.12-0.28	4.5-5.5	Low-----	0.17	3
	4-20	0.6-2.0	0.10-0.26	4.5-5.5	Low-----	0.43	
	20-60	<0.2	0.08-0.12	4.5-6.0	Low-----	0.17	
WvA, WvB----- Windsor	0-7	6.0->20	0.08-0.12	4.5-6.0	Low-----	0.17	5
	7-32	6.0->20	0.02-0.12	4.5-6.0	Low-----	0.17	
	32-60	6.0->20	0.01-0.08	4.5-6.5	Low-----	0.17	
WxA, WxB----- Woodbridge	0-8	0.60-6.0	0.08-0.23	5.1-6.0	Low-----	0.24	3
	8-28	0.60-6.0	0.06-0.20	5.1-6.0	Low-----	0.43	
	28-60	<0.6	0.05-0.12	5.1-6.0	Low-----	0.17	
WyA, WyB----- Woodbridge	0-8	0.6-6.0	0.08-0.23	5.1-6.0	Low-----	0.24	3
	8-28	0.6-6.0	0.06-0.20	5.1-6.0	Low-----	0.43	
	28-60	<0.6	0.05-0.12	5.1-6.0	Low-----	0.17	
WzA, WzC----- Woodbridge	0-8	0.6-6.0	0.08-0.23	5.1-6.0	Low-----	0.24	3
	8-28	0.6-6.0	0.06-0.20	5.1-6.0	Low-----	0.43	
	28-60	<0.6	0.05-0.12	5.1-6.0	Low-----	0.17	
YaB, YaC----- Yalesville	0-10	0.6-6.0	0.11-0.28	4.5-6.0	Low-----	0.28	3
	10-20	0.6-6.0	0.08-0.24	4.5-6.0	Low-----	0.43	
	20-30	0.6-6.0	0.05-0.15	4.5-6.0	Low-----	0.43	
	30	---	---	---	-----	---	

<sup>1</sup> See description of the map unit for composition and behavior characteristics of the entire map unit.

ossary for descriptions of symbols and such  
reater than]

pth	Bedrock		Risk of corrosion	
	Hardness	Potential frost action	Uncoated steel	Concrete
In				
60	---	High----	High----	Moderate.
60	---	Low----	Low----	High.
60	---	High----	Moderate	Moderate.
60	---	Moderate	Low----	High.
60	---	Low----	Low----	High.
60	---	Low----	Low----	High.
60	---	High----	High----	Low.
60	---	Low----	Low----	High.
-20	Hard	Moderate	Low----	High.
60	---	Moderate	Low----	High.
60	---	Moderate	Low----	High.
-20	Hard	Moderate	Low----	High.
60	---	High----	Low----	High.
60	---	Low----	Low----	High.
60	---	Low----	Low----	High.
60	---	Low----	Low----	High.

TABLE 16.--SOIL AND WATER FEATURES--Continued

Flooding			High water table			Bedrock		Potential frost action	Risk of corrosion	
Frequency	Duration	Months	Depth Ft	Kind	Months	Depth In	Hardness		Uncoated steel	Concrete
ne-----	---	---	>6.0	---	---	>60	---	Low-----	Low-----	High.
ne-----	---	---	>6.0	---	---	10-20	Hard	Moderate	Low-----	High.
ne-----	---	---	>6.0	---	---	>60	---	Low-----	Low-----	High.
ne-----	---	---	>6.0	---	---	10-20	Hard	Moderate	Low-----	High.
ne-----	---	---	>6.0	---	---	10-20	Hard	Moderate	Low-----	High.
ne-----	---	---	>6.0	---	---	>60	---	Moderate	Low-----	High.
ne-----	---	---	>6.0	---	---	10-20	Hard	Moderate	Low-----	High.
ne-----	---	---	0-1.5	Apparent	Nov-Mar	>60	---	High-----	Low-----	High.
ne-----	---	---	0-1.5	Perched	Nov-May	>60	---	High-----	High-----	High.
ne-----	---	---	0-0.5	Perched	Sep-Jun	>60	---	High-----	High-----	High.
ne-----	---	---	1.5-3.5	Perched	Nov-Apr	>60	---	High-----	Low-----	Moderate.
ne-----	---	---	>6.0	---	---	>60	---	Low-----	Low-----	High.
ne-----	---	---	>6.0	---	---	>60	---	Low-----	Low-----	High.
ne-----	---	---	1.5-3.5	Apparent	Nov-Apr	>60	---	Moderate	Low-----	High.
ne-----	---	---	>6.0	---	---	>60	---	Moderate	Low-----	Moderate.
ne-----	---	---	>6.0	---	---	>60	---	Moderate	Low-----	High.
ne-----	---	---	>6.0	---	---	>60	---	Moderate	Low-----	Moderate.
ne-----	---	---	>6.0	---	---	>60	---	Moderate	Low-----	High.

able.



TABLE 16.--SOIL AND WATER FEATURES--Continued

Soil name and map symbol	Hydro-logic group	Flooding			High water table			Bedrock		Potential frost action	Risk of corrosion	
		Frequency	Duration	Months	Depth <u>Ft</u>	Kind	Months	Depth <u>In</u>	Hardness		Uncoated steel	Concrete
PnA, PnB----- Penwood	A	None-----	---	---	>6.0	---	---	>60	---	Low-----	Low-----	High.
Pr <sup>1</sup> . Pits												
Ps----- Podunk	B	Frequent-----	Brief-----	Nov-May	1.5-3.0	Apparent	Nov-May	>60	---	Moderate	Moderate	Moderate.
Rb----- Raypol	C	None-----	---	---	0-1.0	Apparent	Nov-May	>60	---	High-----	High-----	Moderate.
Rp <sup>1</sup> : Rock outcrop.												
Hollis-----	C/D	None-----	---	---	>6.0	---	---	10-20	Hard	Moderate	Low-----	High.
Ru----- Rumney	C	Frequent-----	Brief-----	Oct-May	0-1.5	Apparent	Nov-Jun	>60	---	High-----	High-----	High.
Rv----- Rumney Variant	C	Frequent-----	Brief-----	Nov-May	0-1.0	Apparent	Nov-Apr	>60	---	High-----	High-----	Moderate.
Sb----- Saco	D	Frequent-----	Brief-----	Nov-May	0-0.5	Apparent	Nov-Apr	>60	---	High-----	Low-----	Moderate.
Sc----- Scarboro	D	Rare-----	---	---	0-1.0	Apparent	Jan-Dec	>60	---	High-----	Moderate	High.
SgA----- Sudbury	B	None-----	---	---	1.0-3.0	Apparent	Dec-Apr	>60	---	Moderate	Low-----	High.
St----- Suncook	A	Common-----	Brief-----	Mar-May	3.0-6.0	Apparent	Jan-Apr	>60	---	Low-----	Low-----	High.
UD <sup>1</sup> : Udorthents.												
Urban land.												
Ur <sup>1</sup> : Urban land.												
Wd----- Walpole	C	None-----	---	---	0-1.0	Apparent	Nov-Apr	>60	---	High-----	Low-----	High.
We, Wh----- Westbrook	D	Frequent-----	Very brief	Jan-Dec	+1-0.0	Apparent	Jan-Dec	>60	---	---	High-----	High.
WkB, WkC, WkD, WmB, WmC, WnC----- Wethersfield	C	None-----	---	---	>6.0	---	---	>60	---	Moderate	Low-----	Moderate.

See footnote at end of table.

ck	Potential frost action	Risk of corrosion	
		Uncoated steel	Concrete
---	High---	High---	Moderate.
---	High---	Low---	Moderate.
---	Low---	Low---	High.
ard	High---	Moderate	Moderate.
ard	Low---	Low---	High.

ire map unit.

TABLE 17.--CLASSIFICATION OF THE SOILS

[An asterisk in the first column indicates a taxadjunct to the series. See text for a description of those characteristics of this taxadjunct that are outside the range of the series]

Soil name	Family or higher taxonomic class
Adrian-----	Sandy or sandy-skeletal, mixed, euic, mesic Terrie Medisaprists
Agawam-----	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
*Berlin-----	Fine, illitic, mesic Aquic Dystrochrepts
Branford-----	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Canton-----	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Typic Dystrochrepts
Carlisle-----	Euic, mesic Typic Medisaprists
Charlton-----	Coarse-loamy, mixed, mesic Typic Dystrochrepts
Cheshire-----	Coarse-loamy, mixed, mesic Typic Dystrochrepts
*Ellington-----	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Aquic Dystrochrepts
Hartford-----	Sandy, mixed, mesic Typic Dystrochrepts
Hinckley-----	Sandy-skeletal, mixed, mesic Typic Udorthents
Hollis-----	Loamy, mixed, mesic Lithic Dystrochrepts
Holyoke-----	Loamy, mixed, mesic Lithic Dystrochrepts
Leicester-----	Coarse-loamy, mixed, acid, mesic Aeric Haplaquepts
Ludlow-----	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Manchester-----	Sandy-skeletal, mixed, mesic Typic Udorthents
Merrimac-----	Sandy, mixed, mesic Typic Dystrochrepts
Montauk-----	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Ninigret-----	Coarse-loamy over sandy or sandy-skeletal, mixed, mesic Aquic Dystrochrepts
Paxton-----	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Penwood-----	Mixed, mesic Typic Udipsamments
Podunk-----	Coarse-loamy, mixed, mesic Fluvaquentic Dystrochrepts
*Raypol-----	Coarse-loamy over sandy or sandy-skeletal, mixed, acid, mesic Aeric Haplaquepts
Ridgebury-----	Coarse-loamy, mixed, mesic Aeric Fragiaquepts
Rumney-----	Coarse-loamy, mixed, nonacid, mesic Aeric Fluvaquents
Rumney Variant-----	Coarse-loamy, mixed, mesic Fluvaquentic Dystrochrepts
*Saco-----	Coarse-silty, mixed, nonacid, mesic Fluvaquentic Humaquepts
Scarboro-----	Sandy, mixed, mesic Histic Humaquepts
*Sudbury-----	Sandy, mixed, mesic Aquic Dystrochrepts
Suncook-----	Mixed, mesic Typic Udipsamments
Walpole-----	Sandy, mixed, mesic Aeric Haplaquepts
Westbrook-----	Euic, mesic Typic Sulphemists
Wethersfield-----	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Whitman-----	Coarse-loamy, mixed, mesic Typic Fragiaquepts
Wilbraham-----	Coarse-loamy, mixed, mesic Aquic Fragiochrepts
Windsor-----	Mixed, mesic Typic Udipsamments
Woodbridge-----	Coarse-loamy, mixed, mesic Typic Fragiochrepts
Yalesville-----	Coarse-loamy, mixed, mesic Typic Dystrochrepts



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